

=> d his

(FILE 'HOME' ENTERED AT 11:26:38 ON 07 JUL 2005)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 11:26:44 ON 07 JUL 2005

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      E EPH
L1      4 S E3()A2
L2     154 S E29,E32
L3     156 S L1,L2
      E KIENER P/AU
L4      99 S E3,E4,E7,E8
      E KINCH M/AU
L5      66 S E3,E5,E7,E10,E11
      E LANGERMAN S/AU
L6      37 S E4,E5,E11-E14
      E MEDIMMUN/PA,CS
L7     218 S MEDIMMUNE?/PA,CS
L8       1 S US20050049176/PN OR (US2004-823259# OR WO2004-US11481 OR US20
L9       1 S L3 AND L8
L10     106 S L3 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)
L11      59 S EPHRIN TYPE A RECEPTOR 2
L12      27 S L11 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)
L13     117 S L10,L12

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FILE 'REGISTRY' ENTERED AT 11:33:54 ON 07 JUL 2005

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      E EPH/CN
      E EPHA2
L14     27 S E3
L15      0 S EPH A2

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FILE 'HCAPLUS' ENTERED AT 11:36:36 ON 07 JUL 2005

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L16     130 S L14
L17      25 S ECK() (KINASE OR RECEPTOR KINASE OR RECEPTOR PROTEIN KINASE OR
L18      1 S EPITHELIAL CELL RECEPTOR PROTEIN TYROSINE KINASE
L19     117 S L16-L18 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)
L20     174 S L13,L19
L21      29 S L4-L7 AND L20
L22      29 S L21 AND (?KINASE? OR TYROSINE OR PROTEINKINASE OR PROTEIN KIN
L23      28 S L22 AND RECEPTOR
L24      29 S L22,L23
L25      29 S L9,L24
L26      14 S L4-L7 AND L3,L11,L16-L18 NOT L25
L27     193 S L3,L11,L16-L18 NOT L25,L26
L28     145 S L27 AND L10,L12,L19
L29       9 S L28 AND ANTAGON?
L30      61 S L28 AND (INHIBIT? OR BLOCK? OR PREVENT?)
L31      62 S L29,L30
      SEL DN AN 3 6 14-16 20 30 34 39 47 48 50 52 53 60
L32      15 S L31 AND E1-E45
L33      44 S L25,L32
L34      83 S L28 NOT L31,L25,L26
      SEL DN AN 4 5 8 26 27 32 34 38 41 68 83
L35      11 S L34 AND E46-E78
L36      55 S L33,L35 AND L1-L13,L16-L35
L37      55 S L36 AND (?TYROSIN? OR ?KINASE? OR RECEPTOR OR PROTEIN)
L38      10 S L37 AND ECK
L39      51 S L37 AND (EPH OR EPHRIN? OR EPH## OR EPH A#)
L40      55 S L37-L39
      SEL HIT RN

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FILE 'REGISTRY' ENTERED AT 12:19:56 ON 07 JUL 2005

L41 2 S E79-E80
L42 2 S L41 AND L14

=> fil reg

FILE 'REGISTRY' ENTERED AT 12:20:37 ON 07 JUL 2005

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DICTIONARY FILE UPDATES: 6 JUL 2005 HIGHEST RN 853990-77-9

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* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide can tot l42

L42 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2005 ACS on STN

RN 389189-17-7 REGISTRY

ED Entered STN: 04 Feb 2002

CN DNA (human HeLa cell gene ECK protein kinase cDNA plus flanks) (9CI) (CA
INDEX NAME)

OTHER NAMES:

CN 1171: PN: WO03042661 TABLE: 34A claimed DNA
CN 11: PN: WO02072789 PAGE: 120 unclaimed DNA
CN 1259: PN: WO03095618 TABLE: 1 unclaimed DNA
CN 1728: PN: WO03042661 TABLE: 3A claimed DNA
CN 1: PN: WO03061564 TABLE: 1 unclaimed DNA
CN 201: PN: WO0224956 FIGURE: 11 claimed DNA
CN 219: PN: WO02059367 TABLE: 3 unclaimed DNA
CN 2257: PN: WO03042661 TABLE: 25A claimed DNA
CN 2381: PN: WO03042661 TABLE: 49A claimed DNA
CN 2455: PN: WO2004038376 TABLE: 5 unclaimed DNA
CN 256: PN: WO02072828 TABLE: 3 claimed sequence
CN 25: PN: WO03044166 TABLE: 1 unclaimed DNA

CN 3428: PN: WO03042661 TABLE: 17A claimed DNA
 CN 34: PN: US20030233196 FIGURE: 2 unclaimed DNA
 CN 4034: PN: WO03091391 TABLE: 20 unclaimed DNA
 CN 4109: PN: WO2004037996 TABLE: 3 claimed DNA
 CN 7: PN: WO02063037 TABLE: 1 unclaimed DNA
 CN DNA (human cell line HeLa and keratinocyte cDNA)
 CN DNA (human cell line HeLa and keratinocyte gene ECK cDNA)
 CN DNA (human keratinocyte gene EphA2 protein kinase cDNA plus
 flanks)
 CN GenBank M36395 (Secondary GenBank Accession Number)
 CN GenBank M59371
 FS NUCLEIC ACID SEQUENCE
 MF Unspecified
 CI MAN
 SR GenBank
 LC STN Files: CA, CAPLUS, GENBANK, TOXCENTER, USPATFULL

****RELATED SEQUENCES AVAILABLE WITH SEQLINK****

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 *** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
 20 REFERENCES IN FILE CA (1907 TO DATE)
 20 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:402911
 REFERENCE 2: 140:373461
 REFERENCE 3: 140:37033
 REFERENCE 4: 140:3792
 REFERENCE 5: 139:379453
 REFERENCE 6: 139:145007
 REFERENCE 7: 139:18834
 REFERENCE 8: 139:2019
 REFERENCE 9: 139:2018
 REFERENCE 10: 138:397234

L42 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 149433-91-0 REGISTRY
 ED Entered STN: 20 Aug 1993
 CN Kinase (phosphorylating), gene eck protein (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Eck kinase
 CN Eck receptor kinase
 CN ECK receptor protein-tyrosine kinase
 CN EphA2 receptor tyrosine kinase
 CN Ephrin-A2 receptor tyrosine kinase
 CN Epithelial cell receptor protein tyrosine kinase
 CN Gene eck protein kinase
 CN Gene eck receptor protein tyrosine kinase
 CN Gene eck receptor tyrosine kinase
 MF Unspecified
 CI MAN

SR CA
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

100 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

101 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 143:7711
REFERENCE 2: 142:460961
REFERENCE 3: 142:426447
REFERENCE 4: 142:254576
REFERENCE 5: 141:374716
REFERENCE 6: 141:273622
REFERENCE 7: 141:241427
REFERENCE 8: 141:150541
REFERENCE 9: 141:137529
REFERENCE 10: 141:121430

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 12:20:44 ON 07 JUL 2005

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FILE COVERS 1907 - 7 Jul 2005 VOL 143 ISS 2

FILE LAST UPDATED: 6 Jul 2005 (20050706/ED)

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=> d 140 all tot

L40 ANSWER 1 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:46212 HCAPLUS

DN 142:353435

ED Entered STN: 19 Jan 2005

jan delaval - 7 july 2005

TI Targeting **tyrosine kinase** in cancer
 AU Dhawan, Deepika; **Kinch, Michael S.**; Knapp, Deborah W.
 CS Veterinary Clinical Science, Lynn Hall of Veterinary Medicine, Purdue University, West Lafayette, IN, 47907-2026, USA
 SO Recent Advances in Life Sciences (2002), 57-67. Editor(s): Bhattacharyya, Nandan; Bhattacharyya, Chandan. Publisher: Research Signpost, Trivandrum, India.
 CODEN: 69GJFV; ISBN: 81-7736-230-5
 DT Conference; General Review
 LA English
 CC 15-0 (Immunochemistry)
 Section cross-reference(s): 1, 7, 14
 AB A review with refs. **Receptor tyrosine kinases** (RTKs) play an important role in signal transduction. One member of the **Eph** family, **EphA2**, a **protein tyrosine kinase**, is upregulated in aggressive and metastatic cancers. We discuss here, the role of RTKs and the **Eph** family in particular, and the potential role of **EphA2** as a target for cancer therapy. Monoclonal antibodies have been raised against **EphA2**. We present some of the recent findings involving the use of these antibodies as potential anti-cancer agents.
 ST review **receptor tyrosine kinase EphA2** monoclonal antibody antitumor cancer; metastatic cancer anticancer **EphA2** therapeutic target monoclonal antibody review
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 2; targeting **tyrosine kinase** in cancer)
 IT Neoplasm
 (metastasis; targeting **tyrosine kinase** in cancer)
 IT Antibodies and Immunoglobulins
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (monoclonal, against **EphA2**; targeting **tyrosine kinase** in cancer)
 IT Antitumor agents
 Drug targets
 Neoplasm
 Signal transduction, biological
 (targeting **tyrosine kinase** in cancer)
 IT 340830-03-7
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (targeting **tyrosine kinase** in cancer)
 RE.CNT 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 2 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:905876 HCAPLUS

DN 141:360679

ED Entered STN: 29 Oct 2004

TI **Epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution

IN Kiener, Peter A.; Kinch, Michael S.; Langermann, Solomon

PA Medimmune, Inc., USA

SO PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N

CC 1-7 (Pharmacology)

Section cross-reference(s): 3, 6, 13

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004092343	A2	20041028	WO 2004-US11481	20040412 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005049176	A1	20050303	US 2004-823259	20040412 <--
PRAI US 2003-462009P	P	20030411	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004092343	ICM	C12N
US 2005049176	NCL	514/002.000; 514/044.000

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of a hypoproliferative cell disorder, especially those disorders relating to the destruction, shedding, or inadequate proliferation of epithelial and/or endothelial cells, particularly interstitial cystitis (IC) and lesions associated with inflammatory bowel disease (IBD). The methods of the invention comprise the administration of an effective amount of one or more agents that are antagonists of **Epha2**. In certain embodiments, the **Epha2** antagonistic agent of the invention decreases **Epha2** endogenous ligand binding, upregulates **Epha2** gene expression and/or translation, increases

EphA2 protein stability or protein

accumulation, decreases **EphA2** cytoplasmic tail phosphorylation, promotes **EphA2 kinase** activity (other than autophosphorylation or ligand mediated **EphA2** signaling), increases proliferation of **EphA2** expressing cells, increases survival of **EphA2** expressing cells, and/or maintains/reconstitutes epithelial and/or endothelial cell layer integrity. The invention also provides pharmaceutical compns. comprising one or more **EphA2** antagonistic agents of the invention either alone or in combination with one or more other agents useful for therapy for a hypoproliferative cell disorder. Diagnostic methods and methods for screening for therapeutically useful agents are also provided.

- ST **EphA2** hypoproliferative cell disorder epithelium endothelium reconstitution
- IT Antigens
 - RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 - (**EphA2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Bladder, disease
 - Inflammation
 - (cystitis, interstitial; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Cell death
 - Human
 - Immunomodulators
 - (**epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Antisense nucleic acids
 - RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (**epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT **Proteins**
 - RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (**ephrin A2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT **Tyrosine kinase receptors**
 - RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (**ephrin type-A receptor**
 - 2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT **Proteins**
 - RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (**ephrin, A1**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Cell proliferation
 - (epithelial; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Antibodies and Immunoglobulins
 - RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (humanized, to **EphA2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)
- IT Urinary tract, disease
 - (infection, treatment of; **epha2**, hypoproliferative cell

disorders and epithelial and endothelial reconstitution)

IT Intestine, disease
(inflammatory, treatment of; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT Antibodies and Immunoglobulins
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal, to **Epha2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT Endothelium
Epithelium
(proliferation; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT Disease, animal
(proliferative, treatment of; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT Double stranded RNA
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(small interfering; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT Antibodies and Immunoglobulins
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(to **Epha2**; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT 778187-38-5 778187-39-6 778187-40-9 778187-41-0 778187-42-1
778187-43-2
RL: PRP (Properties)
(unclaimed nucleotide sequence; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT 778187-37-4
RL: PRP (Properties)
(unclaimed **protein** sequence; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

IT 95088-49-6 113516-56-6 113846-65-4 113846-66-5 122024-47-9
130838-28-7 132328-28-0 135702-75-9 137235-69-9 154511-01-0
154511-02-1 154511-04-3 154511-05-4 154511-06-5 154511-07-6
154511-08-7 154511-09-8 154511-10-1 154511-11-2 154511-12-3
154561-14-5 160918-30-9 174490-42-7 185047-03-4 200405-35-2
206748-57-4 244250-73-5 244283-56-5 261944-63-2 278595-84-9
285552-09-2 337489-94-8 447456-94-2 447456-95-3 455901-21-0
455901-22-1 455901-23-2
RL: PRP (Properties)
(unclaimed sequence; **epha2**, hypoproliferative cell disorders and epithelial and endothelial reconstitution)

L40 ANSWER 3 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:902103 HCAPLUS
DN 141:394078
ED Entered STN: 28 Oct 2004
TI Recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections
IN Reed, Jennifer L.
PA Medimmune, Inc., USA
SO PCT Int. Appl., 291 pp.
CODEN: PIXXD2

DT Patent
 LA English
 IC ICM A61K
 CC 15-3 (Immunochemistry)
 Section cross-reference(s): 1, 3, 9, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004091510	A2	20041028	WO 2004-US11172	20040412 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2005002934	A1	20050106	US 2004-823253	20040412 <--
PRAI	US 2003-462259P	P	20030411	<--	
	US 2003-477797P	P	20030610		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004091510	ICM	A61K
WO 2004091510	ECLA	C07K016/24F
US 2005002934	NCL	424/145.100; 530/388.230; 435/007.100

AB The present invention provides novel antibodies that immunospecifically bind to an IL-9 polypeptide and compns. comprising said antibodies. The antibodies are anti-human IL-9 antibody 4D4, 4D4H2-1D11, 4D4com-XF9, 4D4com-2F9, 7F3, 71A10, 22D3, 7F3com-2H2, 7F3com-3H5 and 7F3com-3D4. The present invention also provides methods and compns. preventing, treating, managing, and/or ameliorating diseases and disorders associated with aberrant expression and/or activity of IL-9 or IL-9 **receptor** or subunits thereof, autoimmune diseases, inflammatory diseases, proliferative diseases, and infections comprising administration of one or more antibodies thereof that immunospecifically bind to an IL-9 polypeptide. The invention also encompasses methods and compns. for diagnosing, monitoring, and prognosing these disorders. The present invention further relates to articles of manufacture and kits comprising antibodies that immunospecifically bind to an IL-9 polypeptide.

ST recombinant antibody human interleukin 9 autoimmune disease inflammation infection; proliferative disease asthma allergy monoclonal antibody human IL9 **receptor**

IT Antibodies and Immunoglobulins

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(IgG; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Tumor necrosis factors

RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antagonists; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Mycosis

- (aspergillosis; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Infection
Pneumonia
(bacterial; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Samples
(biol.; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Mycosis
(candidiasis; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Drug delivery systems
(carriers; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(chimeric; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Lung, disease
(chronic obstructive; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Inflammation
(chronic; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Physical properties
(const.; association; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Medical goods
(containers; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Mycosis
(cryptococcosis; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**ephrin type-A receptor**
2, anti-; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

- IT Lung, disease
(fibrosis; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(fragments; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(heavy chain; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(humanized; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Diagnosis
(immunodiagnosis; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Respiratory tract, disease
(infection; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Interleukin **receptors**
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(interleukin 9; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(light chain; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Containers
(medical; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Mast cell
(modulator; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)
- IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases,

proliferative diseases and infections)

IT Drug delivery systems
(nasal, intra-; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Drug delivery systems
(oral; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Drug delivery systems
(parenterals; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Packaging materials
(pharmaceutical; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Disease, animal
(proliferative; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Fibrosis
(pulmonary; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Affinity

Allergy

Angiogenesis inhibitors

Animal cell

Animal tissue

Anti-inflammatory agents

Antibacterial agents

Antitumor agents

Antiviral agents

Arthritis

Asthma

Autoimmune disease

Combination chemotherapy

DNA sequences

Dissociation constant

Drug delivery systems

Drugs

Fungicides

Human

Human metapneumovirus

Human parainfluenza virus

Immunomodulators

Immunotherapy

Infection

Inflammation

Labels

Medical goods

Molecular cloning

Multiple sclerosis

Mycosis

Neoplasm

Prognosis

Protein sequences

Respiratory syncytial virus

Rheumatoid arthritis

Test kits

Tuberculosis

(recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Antibodies and Immunoglobulins

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Interleukin 9

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT Infection

(viral; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 784245-11-0P 784374-05-6P 784374-06-7P 784374-07-8P 784374-08-9P
784374-09-0P 784374-10-3P 784374-11-4P 784374-12-5P 784374-13-6P
784374-14-7P 784374-15-8P 784374-16-9P 784374-17-0P 784374-18-1P
784374-19-2P 784374-20-5P 784374-21-6P 784374-25-0P, Interleukin 9
(human) 784374-26-1P 784374-27-2P 784374-31-8P 784374-32-9P
784374-33-0P, Interleukin 9 **receptor** (human)

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(amino acid sequence; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 784374-22-7P 784374-23-8P 784374-24-9P 784374-28-3P, DNA (human
interleukin 9 **receptor** cDNA) 784374-29-4P 784374-30-7P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(nucleotide sequence; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 208518-20-1 480929-81-5, GenBank AAC17735 784200-47-1 784200-48-2
784200-49-3 784200-50-6 784200-51-7 784200-52-8 784200-53-9
784200-54-0 784200-55-1 784200-56-2 784200-59-5 784200-60-8
784200-61-9

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 188039-54-5, Palivizumab 288392-69-8, MEDI-507 324740-00-3, Vitaxin

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 246223-20-1 784374-42-1 784374-43-2 784374-44-3 784374-45-4
784374-46-5 784374-47-6

RL: PRP (Properties)

(unclaimed nucleotide sequence; recombinant anti-IL-9 antibodies for

diagnosis, prognosis and treatment of autoimmune diseases; inflammatory diseases, proliferative diseases and infections)

IT 784374-41-0

RL: PRP (Properties)

(unclaimed **protein** sequence; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

IT 145060-92-0 145060-93-1 145061-00-3 158512-03-9 246223-11-0
728944-79-4 784200-57-3 784200-58-4

RL: PRP (Properties)

(unclaimed sequence; recombinant anti-IL-9 antibodies for diagnosis, prognosis and treatment of autoimmune diseases, inflammatory diseases, proliferative diseases and infections)

L40 ANSWER 4 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:902071 HCAPLUS

DN 141:374716

ED Entered STN: 28 Oct 2004

TI Therapeutic use of **tyrosine kinase receptor**

ephrin type-A receptor 2 (

EphA2) for treating hypoproliferative cell disorders

IN Kiener, Peter A.; Kinch, Michael S.; Langermann, Solomon; Reed, Jennifer L.

PA Medimmune, Inc., USA

SO PCT Int. Appl., 128 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61B

CC 1-7 (Pharmacology)

Section cross-reference(s): 3, 6, 13

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004091375	A2	20041028	WO 2004-US11482	20040412 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005059592	A1	20050317	US 2004-823254	20040412 <--
PRAI US 2003-462024P	P	20030411	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004091375	ICM	A61B
US 2005059592	NCL	514/012.000; 424/144.100 <--

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of a non-neoplastic hyperproliferative cell or excessive cell accumulation disorders, particularly those involving hyperproliferation of epithelial or endothelial cells. In one embodiment, the methods of the invention comprise the administration of an effective amount of one or more **EphA2** agonistic agents that bind to **EphA2** and increase

Epha2 cytoplasmic tail phosphorylation and/or increase **Epha2** autophosphorylation. in cells which **Epha2** has been agonized. In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more **Epha2** agonistic agents that bind to **Epha2** and reduce **Epha2** activity (other than autophosphorylation). In another embodiment, the methods of the invention comprise administration of an effective amount of one or more **Epha2** agonistic agents that bind to **Epha2** and decrease a pathol.-causing cell phenotype (e.g., a pathol.-causing epithelial cell phenotype or a pathol.-causing endothelial cell phenotype). In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more **Epha2** agonistic agents that are **Epha2** antibodies that bind to **Epha2** with a very low Koff rate. In preferred embodiments, agents of the invention are monoclonal antibodies. The invention also provides pharmaceutical compns. comprising one or more **Epha2** agonistic agents of the invention either alone or in combination with one or more other agents useful in therapy for non-neoplastic hyperproliferative cell or excessive cell accumulation disorders.

ST **Epha2** hypoproliferative disorder epithelium endothelium human tyrosine kinase receptor

IT Antigens

RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**Epha2**; therapeutic use of tyrosine kinase

receptor ephrin type-A

receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

IT Antiarteriosclerotics

(antiatherosclerotics; therapeutic use of tyrosine kinase receptor ephrin type-

A receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

IT Lung, disease

(chronic obstructive, treatment of; therapeutic use of tyrosine kinase receptor ephrin type-

A receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

IT Proteins

RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ephrin A2; therapeutic use of tyrosine

kinase receptor ephrin type-

A receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

IT Tyrosine kinase receptors

RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(ephrin type-A receptor

2; therapeutic use of tyrosine kinase

receptor ephrin type-A

receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

IT Proteins

RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(ephrin, A1; therapeutic use of tyrosine

kinase receptor ephrin type-

A receptor 2 (**Epha2**) for treating hypoproliferative cell disorders)

- IT Cell proliferation
(epithelial; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Disease, animal
(fibroproliferative, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Kidney, disease
Liver, disease
Lung, disease
(fibrosis, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Fibrosis
(hepatic, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Antibodies and Immunoglobulins
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(humanized, to **EphA2**; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Blood vessel, disease
(hyperproliferative, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Bronchi, disease
(hyperresponsiveness, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Inflammation
Lung, disease
(interstitial pneumonitis, usual, desquamative, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Eye, disease
(macula, degeneration, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Diagnosis
(mol.; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Antibodies and Immunoglobulins
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

- (monoclonal, to **EphA2**; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Endothelium
Epithelium
(proliferation; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Disease, animal
(proliferative, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Fibrosis
(pulmonary, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Fibrosis
(renal, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Artery, disease
(restenosis, treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Double stranded RNA
RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(small interfering; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Antiasthmatics
Antiviral agents
Cell death
Cell migration
Extracellular matrix
Gene therapy
Human
Immunomodulators
(therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Fibronectins
Mucins
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)
- IT Antisense nucleic acids
RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT Ribozymes
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT Antibodies and Immunoglobulins
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (to **EphA2**; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT Asbestosis
 Asthma
 Atherosclerosis
 Behcet's syndrome
 Fibrosis
 Psoriasis
 Rous sarcoma virus
 Seborrhea
 (treatment of; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT 141907-41-7P, Matrix metalloproteinase
 RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
 (therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT 149433-91-0P, **EphA2 receptor tyrosine kinase**
 RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT 780827-75-0 780827-76-1 780827-77-2 780827-78-3 780827-79-4
 780827-80-7
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT 780827-74-9 780827-81-8 780827-82-9 780827-83-0 780827-84-1
 RL: PRP (Properties)
 (unclaimed protein sequence; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

IT 95088-49-6 113516-56-6 113846-65-4 113846-66-5 122024-47-9
 130838-28-7 132328-28-0 135702-75-9 137235-69-9 154511-01-0

154511-02-1 154511-04-3 154511-05-4 154511-06-5 154511-07-6
 154511-08-7 154511-09-8 154511-10-1 154511-11-2 154511-12-3
 154561-14-5 160918-30-9 174490-42-7 185047-03-4 200405-35-2
 206748-57-4 244250-73-5 244283-56-5 261944-63-2 278595-84-9
 285552-09-2 337489-94-8 447456-94-2 447456-95-3 455901-21-0
 455901-22-1 455901-23-2

RL: PRP (Properties)

(unclaimed sequence; therapeutic use of **tyrosine kinase receptor ephrin type-A receptor 2 (EphA2)** for treating hypoproliferative cell disorders)

L40 ANSWER 5 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:681585 HCAPLUS
 DN 141:167766
 ED Entered STN: 20 Aug 2004
 TI **Eph/ephrin** mediated modulation of cell adhesion and tumor cell metastasis
 IN Lackmann, Martin; Wimmer-Kleikamp, Sabine; Scott, Andrew; Vearing, Christopher; Boyd, Andrew
 PA Ludwig Institute for Cancer Research, Australia; Monash University; The Council of the Queensland Institute of Medical Research; The University of Queensland
 SO PCT Int. Appl., 59 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A61K038-00
 ICS A61K038-17; A61K038-48; A61K038-45; A61K039-395
 CC 1-6 (Pharmacology)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004069264	A1	20040819	WO 2004-AU142	20040209 <--
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PRAI AU 2003-900541	A	20030207 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004069264	ICM	A61K038-00
	ICS	A61K038-17; A61K038-48; A61K038-45; A61K039-395
WO 2004069264	ECLA	A61K038/17C; A61K038/19 <--
AB	Methods and compns. for modulating ephrin/Eph receptor -mediated cell adhesion and/or cell repulsion are provided, particularly in relation to preventing, inhibiting or delaying tumor cell metastasis through modulation of Eph receptor-ephrin binding interactions and subsequent Eph receptor signaling. Particular agents useful according to the invention are agents which interfere with a	

- ephrin-Eph receptor binding such as soluble ephrins and Eph receptors and antibodies directed to ephrins and Eph receptors, ephrin-cytotoxic drug conjugates which kill tumor cells, metalloprotease inhibitors and inhibitors of protein tyrosine phosphatase activity.
- ST Eph ephrin cell adhesion tumor metastasis tyrosine phosphatase metalloprotease
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (Eph receptor; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Adhesion, biological
Antitumor agents
Human
Leukemia
Melanoma
Neoplasm
Signal transduction, biological (Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Leukemia (acute pre-B-cell; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin A5; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin B2; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 2; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 3; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 4; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 7; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Tyrosine kinase receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 8; Eph/ephrin mediated modulation of cell adhesion and tumor cell metastasis)
- IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin; Eph/ephrin mediated modulation

of cell adhesion and tumor cell metastasis)
 IT Melanoma
 Neoplasm
 (metastasis; **Eph/ephrin** mediated modulation of cell
 adhesion and tumor cell metastasis)
 IT Angiogenesis
 (neovascularization; **Eph/ephrin** mediated modulation
 of cell adhesion and tumor cell metastasis)
 IT 37205-61-1, Proteinase inhibitor 79747-53-8, Tyrosine
 phosphatase 81669-70-7, Metalloprotease 145266-99-5, Metalloprotease
 inhibitor 149433-92-1, **Eph kinase**
 193099-09-1, ADAM-10 301156-53-6, Tyrosine phosphatase SHP2
 352548-19-7, LMW-PTP
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**Eph/ephrin** mediated modulation of cell adhesion
 and tumor cell metastasis)
 IT 113440-58-7, Calicheamicin
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (**Eph/ephrin** mediated modulation of cell adhesion
 and tumor cell metastasis)

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 AN 2004:452978 HCAPLUS
 DN 141:2317
 ED Entered STN: 04 Jun 2004
 TI Algorithms for rational design and selection of functional and
 hyperfunctional siRNA for gene silencing
 IN Khvorova, Anastasia; Reynolds, Angela; Leake, Devin; Marshall, William;
 Scaringe, Stephen
 PA Dharmacon, Inc., USA
 SO PCT Int. Appl., 199 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A61K
 CC 3-1 (Biochemical Genetics)
 Section cross-reference(s): 1

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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004045543	A2	20040603	WO 2003-US36787	20031114 <--
	WO 2004045543	A3	20050421		
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 WO 2003-US36787 A 20031114

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2004045543 ICM A61K

AB Efficient sequence specific gene silencing is possible through the use of siRNA-mediated RNA interference (RNAi) technol. By selecting particular siRNAs by rational design, one can maximize the generation of an effective gene silencing reagent, as well as methods for silencing genes. Nine algorithms are provided for selecting siRNA for a target gene by measuring the functionality of sequences of 19-25 nucleotides in length that are substantially complementary to a stretch of nucleotides of the target sequence, wherein said functionality is dependent upon non-target specific criteria. In one method, rationally designed siRNA can be identified by maximizing one or more of the following criteria: (1) a low GC content, preferably between about 30-52%; (2) at least 2, preferably at least 3 A or U bases at positions 15-19 of the siRNA on the sense strand; (3) an A base at position 3, 14, and 19; (4) an U base at position 10; (5) a base other than C at position 19; (6) a base other than G at position 13; (7) a melting temperature (Tm), which refers to the character of the internal repeat that results in inter- or intramol. structures for one strand of the duplex, that is preferably not stable at >50°, more preferably not stable at >37°, even more preferably not stable at >30°, and most preferably not stable at >20°; (8) a base other than U at position 5; and (9) a base other than A at position 11. Sequence features in siRNA that promote functionality were identified using an siRNA panel consisting of 270 siRNAs targeting three genes: human cyclophilin, firefly luciferase, and human diazepam-binding inhibitor. Bcl-2 siRNAs having the top ten "SMARTscores®" according to the selection algorithms, were selected and tested in a functional assay to determine silencing efficiency. Genome-wide application of the algorithm was accomplished by processing the entire online NCBI RefSeq database through Formula VIII; the top 80-100 scores for siRNAs are obtained and BLAST'ed to entire that the selected sequences are specific in targeting the gene of choice. [This abstract record is one of 281 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

ST siRNA selection algorithm gene silencing

IT **Proteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (Bcl-2; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT **Proteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (DBI (diazepam binding inhibitor); algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT Algorithm

Drug design

Optimization

(algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT Cyclophilins

- RL: BSU (Biological study, unclassified); BIOL (Biological study)
(algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Gene targeting
(gene knock-out; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Post-transcriptional processing
(gene silencing; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Genome
(genome-wide application to human genes; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Human
(genome-wide application; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Post-transcriptional processing
(interference; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT RNA sequences
(of siRNAs rationally designed for human genes; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT Double stranded RNA
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(small interfering; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 61970-00-1, Firefly luciferase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-51-8P 694204-52-9P 694215-84-4P 694221-17-5P 694221-18-6P
694221-19-7P 694221-20-0P 694221-21-1P 694221-22-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of -specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694214-90-9P 694214-91-0P 694214-92-1P 694214-93-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ABCB1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694214-94-3P 694214-95-4P 694214-96-5P 694214-97-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ABCC1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694214-98-7P 694214-99-8P 694215-00-4P 694215-01-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ABCG2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-25-9P 694205-26-0P 694205-27-1P 694205-28-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of ABL1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-29-3P 694205-30-6P 694205-31-7P 694205-32-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ABL2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-33-9P 694205-34-0P 694205-35-1P 694205-36-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ACK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-69-5P 694215-70-8P 694215-71-9P 694215-72-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ADAM2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-67-5P 694221-68-6P 694221-69-7P 694221-70-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ADAM33-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-79-9P 694221-80-2P 694221-81-3P 694221-82-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ADPRT-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-81-6P 694222-82-7P 694222-83-8P 694222-84-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of AGTR2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-20-0P 694219-21-1P 694219-22-2P 694219-23-3P 694219-24-4P
 694219-25-5P 694219-26-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of AIF1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-01-8P 694204-02-9P 694204-03-0P 694204-04-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of AKT1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-05-2P 694204-06-3P 694204-07-4P 694204-08-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of AKT2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-09-6P 694204-10-9P 694204-11-0P 694204-12-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of AKT3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-29-2P 694222-30-5P 694222-31-6P 694222-32-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ALAS-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-37-3P 694205-38-4P 694205-39-5P 694205-40-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ALK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-90-9P 694202-91-0P 694202-92-1P 694202-93-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of AP2B1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-44-1P 694222-45-2P 694222-46-3P 694222-47-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of APBB1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-52-1P 694208-53-2P 694208-54-3P 694208-55-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of APC2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-03-2P 694222-04-3P 694222-05-4P 694222-06-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of APOA5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-94-7P 694212-95-8P 694212-96-9P 694212-97-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of AR-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-70-5P 694202-71-6P 694202-72-7P 694202-73-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ARF6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-13-4P 694222-14-5P 694222-15-6P 694222-16-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ARH-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-93-1P 694217-94-2P 694217-95-3P 694217-96-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ARHA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694222-67-8P 694222-68-9P 694222-69-0P 694222-70-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ARX-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-60-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATE1-1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-61-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATE1-2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-62-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATE1-3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-63-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATE1-4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-56-5P 694208-57-6P 694208-58-7P 694208-59-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATM-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-60-1P 694208-61-2P 694208-62-3P 694208-63-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ATR-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-41-9P 694205-42-0P 694205-43-1P 694205-44-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of AXL-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694222-48-5P 694222-49-6P 694222-50-9P 694222-51-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BACE1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694216-87-0P 694216-88-1P 694216-89-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BAD-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-27-7P 694219-28-8P 694219-29-9P 694219-30-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BBC3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-31-3P 694219-32-4P 694219-33-5P 694219-34-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2L1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-35-7P 694219-36-8P 694219-37-9P 694219-38-0P 694219-39-1P
694219-40-4P 694219-41-5P 694219-42-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2L1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-50-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-51-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-52-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-53-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-54-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-55-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of BCL2_6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-43-7P 694219-44-8P 694219-45-9P 694219-46-0P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BID-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694219-47-1P 694219-48-2P 694219-49-3P 694219-50-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BIRC2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694219-51-7P 694219-52-8P 694219-53-9P 694219-54-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BIRC3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694219-55-1P 694219-56-2P 694219-57-3P 694219-58-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BIRC4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694219-59-5P 694219-60-8P 694219-61-9P 694219-62-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BIRC5-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-45-3P 694205-46-4P 694205-47-5P 694205-48-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BLK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-49-7P 694205-50-0P 694205-51-1P 694205-52-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BMX-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694218-86-5P 694218-87-6P 694218-88-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BRAF-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694217-13-5P 694217-14-6P 694217-15-7P 694217-16-8P 694217-17-9P
 694217-18-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BRCA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-64-5P 694208-65-6P 694208-66-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BTAK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- IT 694205-53-3P 694205-54-4P 694205-55-5P 694205-56-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BTK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-44-5P 694218-45-6P 694218-46-7P 694218-47-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of BTRC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694203-68-4P 694203-69-5P 694203-70-8P 694203-71-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of Bcl10-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694202-32-9P 694202-33-0P 694202-34-1P 694202-35-2P 694202-36-3P
 694202-37-4P 694202-38-5P 694202-39-6P 694202-40-9P 694202-41-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of Bcl2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694205-57-7P 694205-58-8P 694205-59-9P 694205-60-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of C20orf64-specific siRNA; algorithms for
 rational design and selection of functional and hyperfunctional siRNA
 for gene silencing)
- IT 694215-89-9P 694215-90-2P 694215-91-3P 694215-92-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CALCR-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694202-54-5P 694202-55-6P 694202-56-7P 694202-57-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CALM-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694219-63-1P 694219-64-2P 694219-65-3P 694219-66-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CARD4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694219-67-5P 694219-68-6P 694219-69-7P 694219-70-0P 694219-71-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP10-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694219-72-2P 694219-73-3P 694219-74-4P 694219-75-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- silencing)
- IT 694216-17-6P 694216-18-7P 694216-19-8P 694216-20-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-21-2P 694216-22-3P 694216-23-4P 694216-24-5P 694216-25-6P
 694216-26-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP6-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-27-8P 694216-28-9P 694216-29-0P 694216-30-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP7-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-31-4P 694216-32-5P 694216-33-6P 694216-34-7P 694216-35-8P
 694216-36-9P 694216-37-0P 694216-38-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP8-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-39-2P 694216-40-5P 694216-41-6P 694216-42-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CASP9-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-13-2P 694204-14-3P 694204-15-4P 694204-16-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CBL-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-17-6P 694204-18-7P 694204-19-8P 694204-20-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CBLB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694208-68-9P 694208-69-0P 694208-70-3P 694208-71-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694208-72-5P 694208-73-6P 694208-74-7P 694208-75-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNA2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694208-76-9P 694208-77-0P 694208-78-1P 694208-79-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of CCNB1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-80-5P 694208-81-6P 694208-82-7P 694208-83-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNB2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-84-9P 694208-85-0P 694208-86-1P 694208-87-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNB3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-88-3P 694208-89-4P 694208-90-7P 694208-91-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNC-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-92-9P 694208-93-0P 694208-94-1P 694208-95-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCND1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-96-3P 694208-97-4P 694208-98-5P 694208-99-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCND2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-00-2P 694209-01-3P 694209-02-4P 694209-03-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCND3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-04-6P 694209-05-7P 694209-06-8P 694209-07-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNE1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-08-0P 694209-09-1P 694209-10-4P 694209-11-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNE2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-12-6P 694209-13-7P 694209-14-8P 694209-15-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNF-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-16-0P 694209-17-1P 694209-18-2P 694209-19-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of CCNG1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-20-6P 694209-21-7P 694209-22-8P 694209-23-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNG2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-24-0P 694209-25-1P 694209-26-2P 694209-27-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNH-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-28-4P 694209-29-5P 694209-30-8P 694209-31-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNI-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-32-0P 694209-33-1P 694209-34-2P 694209-35-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNT1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-36-4P 694209-37-5P 694209-38-6P 694209-39-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNT2A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-40-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CCNT2B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-83-6P 694216-84-7P 694216-85-8P 694216-86-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CD2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-41-1P 694209-42-2P 694209-43-3P 694209-44-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC16-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-45-5P 694209-46-6P 694209-47-7P 694209-48-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-49-9P 694209-50-2P 694209-51-3P 694209-52-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of CDC20-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-53-5P 694209-54-6P 694209-55-7P 694209-56-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC25A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-57-9P 694209-58-0P 694209-59-1P 694209-60-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC25B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-61-5P 694209-62-6P 694209-63-7P 694209-64-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC25C-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-65-9P 694209-66-0P 694209-67-1P 694209-68-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC27-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-69-3P 694209-70-6P 694209-71-7P 694209-72-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC34-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-73-9P 694209-74-0P 694209-75-1P 694209-76-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC37-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-97-5P 694217-98-6P 694217-99-7P 694218-00-3P 694218-01-4P
 694218-02-5P 694218-03-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC42-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-77-3P 694209-78-4P 694209-79-5P 694209-80-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC45L-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-81-9P 694209-82-0P 694209-83-1P 694209-84-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of CDC6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-85-3P 694209-86-4P 694209-87-5P 694209-88-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDC7-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-89-7P 694209-90-0P 694209-91-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK10-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-92-2P 694209-93-3P 694209-94-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-95-5P 694209-96-6P 694209-97-7P 694209-98-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694209-99-9P 694210-00-9P 694210-01-0P 694210-02-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-03-2P 694210-04-3P 694210-05-4P 694210-06-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-07-6P 694210-08-7P 694210-09-8P 694210-10-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-12-3P 694210-13-4P 694210-14-5P 694210-15-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK7-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-16-7P 694210-17-8P 694210-18-9P 694210-19-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK8-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-20-3P 694210-21-4P 694210-22-5P 694210-23-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDK9-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-19-1P 694217-20-4P 694217-21-5P 694217-22-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN1A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-23-7P 694217-24-8P 694217-25-9P 694217-26-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN1B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-24-7P 694210-25-8P 694210-26-9P 694210-27-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN1C-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-28-1P 694210-29-2P 694210-30-5P 694210-31-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN2B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-32-7P 694210-33-8P 694210-34-9P 694210-35-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN2C-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-36-1P 694210-37-2P 694210-38-3P 694210-39-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDKN2D-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-40-7P 694210-41-8P 694210-42-9P 694210-43-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CDT1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-44-1P 694210-45-2P 694210-46-3P 694210-47-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPA-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-48-5P 694210-49-6P 694210-50-9P 694210-51-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPB-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-52-1P 694210-53-2P 694210-54-3P 694210-55-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPC1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-56-5P 694210-57-6P 694210-58-7P 694210-59-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPE-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-60-1P 694210-61-2P 694210-62-3P 694210-63-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPF-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-64-5P 694210-65-6P 694210-66-7P 694210-67-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CENPH-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-76-6P 694219-77-7P 694219-78-8P 694219-79-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CFLAR-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-68-9P 694210-69-0P 694210-70-3P 694210-71-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CHEK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-72-5P 694210-73-6P 694210-74-7P 694210-75-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CHEK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-14-0P 694215-15-1P 694215-16-2P 694215-17-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLCA1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-80-2P 694219-81-3P 694219-82-4P 694219-83-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-85-5P 694215-86-6P 694215-87-7P 694215-88-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLN3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-84-6P 694219-85-7P 694219-86-8P 694219-87-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLSPN-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-46-5P 694202-47-6P 694202-48-7P 694202-49-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLTA-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-50-1P 694202-51-2P 694202-52-3P 694202-53-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLTB-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-42-1P 694202-43-2P 694202-44-3P 694202-45-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CLTC-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-81-1P 694215-82-2P 694215-83-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CMKLR1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-76-9P 694210-77-0P 694210-78-1P 694210-79-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CNK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-75-5P 694221-76-6P 694221-77-7P 694221-78-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of COX2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694218-40-1P 694218-41-2P 694218-42-3P 694218-43-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CREBBP-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-80-5P 694210-81-6P 694210-82-7P 694210-83-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CRI1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-61-3P 694205-62-4P 694205-63-5P 694205-64-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CSF1R-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-65-7P 694205-66-8P 694205-67-9P 694205-68-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CSK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-88-0P 694219-89-1P 694219-90-4P 694219-91-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CSNK2A1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-67-6P 694216-68-7P 694216-69-8P 694216-70-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CTNNA1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-71-2P 694216-72-3P 694216-73-4P 694216-74-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CTNNA2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-92-6P 694219-93-7P 694219-94-8P 694219-95-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CTNNA1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-96-0P 694219-97-1P 694219-98-2P 694219-99-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CXCR4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694220-00-3P 694220-01-4P 694220-02-5P 694220-03-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CXCR6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-50-6P 694221-51-7P 694221-52-8P 694221-53-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CYP1A2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-17-8P 694222-18-9P 694222-19-0P 694222-20-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of CYP7A1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694220-04-7P 694220-05-8P 694220-06-9P 694220-07-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DAXX-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-30-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DBI1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-31-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DBI2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-32-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DBI3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-33-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DBI4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-79-0P 694216-80-3P 694216-81-4P 694216-82-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DCTN2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-69-1P 694205-70-4P 694205-71-5P 694205-72-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DDR1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-73-7P 694205-74-8P 694205-75-9P 694205-76-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DDR2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-77-1P 694205-78-2P 694205-79-3P 694205-80-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DKFZp761P1010-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-66-9P 694202-67-0P 694202-68-1P 694202-69-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DNMT2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-43-8P 694216-44-9P 694216-45-0P 694216-46-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DVL1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-47-2P 694216-48-3P 694216-49-4P 694216-50-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of DVL2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-84-9P 694210-85-0P 694210-86-1P 694210-87-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-88-3P 694210-89-4P 694210-90-7P 694210-91-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-92-9P 694210-93-0P 694210-94-1P 694210-95-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694210-96-3P 694210-97-4P 694210-98-5P 694210-99-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-00-2P 694211-01-3P 694211-02-4P 694211-03-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-04-6P 694211-05-7P 694211-06-8P 694211-07-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of E2F5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-97-9P 694215-98-0P 694215-99-1P 694216-00-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EDG4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-01-8P 694216-02-9P 694216-03-0P 694216-04-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EDG5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-05-2P 694216-06-3P 694216-07-4P 694216-08-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EDG7-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694202-86-3P 694202-87-4P 694202-88-5P 694202-89-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EEAl-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-64-0P 694203-65-1P 694203-66-2P 694203-67-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EGFR-1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-21-2P 694204-22-3P 694204-23-4P 694204-24-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of EIF4EBP1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694218-89-8P 694218-90-1P 694218-91-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ELK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-81-7P 694205-82-8P 694205-83-9P 694205-84-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA1**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-85-1P 694205-86-2P 694205-87-3P 694205-88-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA2**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-89-5P 694205-90-8P 694205-91-9P 694205-92-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA3**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-93-1P 694205-94-2P 694205-95-3P 694205-96-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA4**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-97-5P 694205-98-6P 694205-99-7P 694206-00-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA7**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-01-4P 694206-02-5P 694206-03-6P 694206-04-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHA8**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-05-8P 694206-06-9P 694206-07-0P 694206-08-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHB1**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-09-2P 694206-10-5P 694206-11-6P 694206-12-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHB2**-specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694206-13-8P 694206-14-9P 694206-15-0P 694206-16-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHB3**-specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694206-17-2P 694206-18-3P 694206-19-4P 694206-20-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHB4**-specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694206-21-8P 694206-22-9P 694206-23-0P 694206-24-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPHB6**-specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694202-58-9P 694202-59-0P 694202-60-3P 694202-61-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPS15**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694202-62-5P 694202-63-6P 694202-64-7P 694202-65-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **EPS15R**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-25-2P 694206-26-3P 694206-27-4P 694206-28-5P 694217-05-5P
694217-06-6P 694217-07-7P 694217-08-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **ERBB2**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-29-6P 694206-30-9P 694206-31-0P 694206-32-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **ERBB3**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-33-2P 694206-34-3P 694206-35-4P 694206-36-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **ERBB4**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694212-98-1P 694212-99-2P 694213-00-8P 694213-01-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of **ESR1**-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694213-02-0P 694213-03-1P 694213-04-2P 694213-05-3P

- RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ESR2-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694213-06-4P 694213-07-5P 694213-08-6P 694213-09-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ESRRA-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694213-10-0P 694213-11-1P 694213-12-2P 694213-13-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ESRRB-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694213-14-4P 694213-15-5P 694213-16-6P 694213-17-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ESRRG-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694217-72-6P 694217-73-7P 694217-74-8P 694217-75-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FADD-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694222-21-4P 694222-22-5P 694222-23-6P 694222-24-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FANCA-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694222-25-8P 694222-26-9P 694222-27-0P 694222-28-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FANCG-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-37-6P 694206-38-7P 694206-39-8P 694206-40-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FER-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-41-2P 694206-42-3P 694206-43-4P 694206-44-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FES-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-45-6P 694206-46-7P 694206-47-8P 694206-48-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of FGFR1-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694206-49-0P 694206-50-3P 694206-51-4P 694206-52-5P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FGFR2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-53-6P 694206-54-7P 694206-55-8P 694206-56-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FGFR3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-57-0P 694206-58-1P 694206-59-2P 694206-60-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FGFR4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-61-6P 694206-62-7P 694206-63-8P 694206-64-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FGR-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694217-39-5P 694217-40-8P 694217-41-9P 694217-42-0P 694217-43-1P
 694217-44-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FKBP1A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-65-0P 694206-66-1P 694206-67-2P 694206-68-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FLT1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-69-4P 694206-70-7P 694206-71-8P 694206-72-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FLT3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694206-73-0P 694206-74-1P 694206-75-2P 694206-76-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FLT4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694211-08-0P 694211-09-1P 694211-10-4P 694211-11-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FOS-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694204-25-6P 694204-26-7P 694204-27-8P 694204-28-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FOXO1A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- IT 694204-29-0P 694204-30-3P 694204-31-4P 694204-32-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FOXO3A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-33-6P 694204-34-7P 694204-35-8P 694204-36-9P 694217-35-1P
 694217-36-2P 694217-37-3P 694217-38-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FRAP1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694206-77-4P 694206-78-5P 694206-79-6P 694206-80-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FRK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694206-81-0P 694206-82-1P 694206-83-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of FYN-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694202-98-7P 694202-99-8P 694203-00-4P 694203-01-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GAPDH-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-08-1P 694220-09-2P 694220-10-5P 694220-11-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GAS41-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-91-5P 694221-92-6P 694221-93-7P 694221-94-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GATA3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694215-61-7P 694215-62-8P 694215-63-9P 694215-64-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GLRA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694203-93-5P 694203-94-6P 694203-95-7P 694203-96-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GLUT1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694203-97-9P 694203-98-0P 694203-99-1P 694204-00-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GLUT12-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- silencing)
- IT 694218-60-5P 694218-61-6P 694218-62-7P 694218-63-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GRB2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-37-0P 694204-38-1P 694204-39-2P 694204-40-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GSK3A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-41-6P 694204-42-7P 694204-43-8P 694204-44-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GSK3B-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-12-7P 694220-13-8P 694220-14-9P 694220-15-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GTSE1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694215-77-5P 694215-78-6P 694215-79-7P 694215-80-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of GZMA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-95-9P 694221-96-0P 694221-97-1P 694221-98-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of Gab2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694206-84-3P 694206-85-4P 694206-86-5P 694206-87-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HCK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-32-1P 694218-33-2P 694218-34-3P 694218-35-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HDAC1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-36-5P 694218-37-6P 694218-38-7P 694218-39-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HDAC2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-16-1P 694220-17-2P 694220-18-3P 694220-19-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HDAC3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- silencing)
- IT 694220-20-7P 694220-21-8P 694220-22-9P 694220-23-0P 694220-24-1P
694220-25-2P 694220-26-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HDAC5-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694221-83-5P 694221-84-6P 694221-85-7P 694221-86-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HDC-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694220-27-4P 694220-28-5P 694220-29-6P 694220-30-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HEC-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694203-76-4P 694203-77-5P 694203-78-6P 694203-79-7P 694203-80-0P
694203-81-1P 694203-82-2P 694203-83-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HIF-1 α -specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694211-12-6P 694211-13-7P 694211-14-8P 694211-15-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HIPK2-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694220-31-0P 694220-32-1P 694220-33-2P 694220-34-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HIST1H2AA-specific siRNA; algorithms for
rational design and selection of functional and hyperfunctional siRNA
for gene silencing)
- IT 694222-07-6P 694222-08-7P 694222-09-8P 694222-10-1P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HMB-CoA reductase-specific siRNA; algorithms
for rational design and selection of functional and hyperfunctional
siRNA for gene silencing)
- IT 694213-18-8P 694213-19-9P 694213-20-2P 694213-21-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HNF4A-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694213-22-4P 694213-23-5P 694213-24-6P 694213-25-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of HNG4G-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)
- IT 694218-83-2P 694218-84-3P 694218-85-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of HRAS-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694213-26-8P 694213-27-9P 694213-28-0P 694213-29-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HSAJ2425-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694216-75-6P 694216-76-7P 694216-77-8P 694216-78-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HSPCA-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-16-0P 694211-17-1P 694211-18-2P 694211-19-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HUS1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-87-9P 694221-88-0P 694221-89-1P 694221-90-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of HnmT-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-45-0P 694204-46-1P 694204-47-2P 694204-48-3P 694204-50-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IGF1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-49-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IGF1R-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-76-0P 694217-77-1P 694217-78-2P 694217-79-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IKBKE-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-80-6P 694217-81-7P 694217-82-8P 694217-83-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IKBKG-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-49-7P 694217-50-0P 694217-51-1P 694217-52-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IL1R1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-53-0P 694204-54-1P 694204-55-2P 694204-56-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of INPP5D-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-57-4P 694204-58-5P 694204-59-6P 694204-60-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of INSR-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-53-3P 694217-54-4P 694217-55-5P 694217-56-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IRAK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694204-61-0P 694204-62-1P 694204-63-2P 694204-64-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of IRS1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694218-71-8P 694218-72-9P 694218-73-0P 694218-74-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ITGA4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694218-67-2P 694218-68-3P 694218-69-4P 694218-70-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ITGB1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-88-7P 694206-89-8P 694206-90-1P 694206-91-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ITK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-92-3P 694206-93-4P 694206-94-5P 694206-95-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of JAK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694206-96-7P 694206-97-8P 694206-98-9P 694206-99-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of JAK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-00-6P 694207-01-7P 694207-02-8P 694207-03-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of JAK3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-20-6P 694211-21-7P 694211-22-8P 694211-23-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of JUN-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-24-0P 694211-25-1P 694211-26-2P 694211-27-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of JUNB-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-10-6P 694215-11-7P 694215-12-8P 694215-13-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KCNH1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-02-6P 694215-03-7P 694215-04-8P 694215-05-9P 694215-06-0P
 694215-07-1P 694215-08-2P 694215-09-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KCNH2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-04-0P 694207-05-1P 694207-06-2P 694207-07-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KDR-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-08-4P 694207-09-5P 694207-10-8P 694207-11-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KIAA1079-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-12-0P 694207-13-1P 694207-14-2P 694207-15-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KIT-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694215-65-1P 694215-66-2P 694215-67-3P 694215-68-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KLK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-14-0P 694203-15-1P 694203-16-2P 694203-17-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KNSL1(EG5)-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694218-79-6P 694218-80-9P 694218-81-0P 694218-82-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of KRAS2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-16-4P 694207-17-5P 694207-18-6P 694207-19-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

- PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LCK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694220-35-4P 694220-36-5P 694220-37-6P 694220-38-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LMNB1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694220-39-8P 694220-40-1P 694220-41-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LMNB2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-28-4P 694211-29-5P 694211-30-8P 694211-31-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LOC51053-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-20-0P 694207-21-1P 694207-22-2P 694207-23-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LTK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694207-24-4P 694207-25-5P 694207-26-6P 694207-27-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of LYN-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-32-0P 694211-33-1P 694211-34-2P 694211-35-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of MAD2L1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694211-36-4P 694211-37-5P 694211-38-6P 694211-39-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of MAD2L2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-06-0P 694203-07-1P 694203-08-2P 694203-09-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of MAP2K1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-10-6P 694203-11-7P 694203-12-8P 694203-13-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of MAP2K2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694219-00-6P 694219-01-7P 694219-02-8P 694219-03-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MAP2K4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694219-04-0P 694219-05-1P 694219-06-2P 694219-07-3P 694219-08-4P
 694219-09-5P 694219-10-8P 694219-11-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MAP2K7-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694216-97-2P 694216-98-3P 694216-99-4P 694217-00-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MAP3K5-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694219-12-0P 694219-13-1P 694219-14-2P 694219-15-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MAPK8-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694219-16-4P 694219-17-5P 694219-18-6P 694219-19-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MAPK9-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694222-63-4P 694222-64-5P 694222-65-6P 694222-66-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MASS1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-28-8P 694207-29-9P 694207-30-2P 694207-31-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MATK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694211-40-0P 694211-41-1P 694211-42-2P 694211-43-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694211-44-4P 694211-45-5P 694211-46-6P 694211-47-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694211-48-8P 694211-49-9P 694211-50-2P 694211-51-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694211-52-4P 694211-53-5P 694211-54-6P 694211-55-7P

- RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM5-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694211-56-8P 694211-57-9P 694211-58-0P 694211-59-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM6-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694211-60-4P 694211-61-5P 694211-62-6P 694211-63-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MCM7-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694211-64-8P 694211-65-9P 694211-66-0P 694211-67-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MDM2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-32-4P 694207-33-5P 694207-34-6P 694207-35-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MERTK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-36-8P 694207-37-9P 694207-38-0P 694207-39-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MET-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694211-68-2P 694211-69-3P 694211-70-6P 694211-71-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MKI67-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-65-4P 694204-66-5P 694204-67-6P 694204-68-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MLLT7-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694211-72-8P 694211-73-9P 694211-74-0P 694211-75-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MNAT1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-40-4P 694207-41-5P 694207-42-6P 694207-43-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MST1R-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-44-8P 694207-45-9P 694207-46-0P 694207-47-1P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MUSK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-42-3P 694220-43-4P 694220-44-5P 694220-45-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MYB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694211-76-2P 694211-77-3P 694211-78-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MYC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-46-7P 694220-47-8P 694220-48-9P 694220-49-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of MYT1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-54-7P 694220-55-8P 694220-56-9P 694220-57-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NFKBIA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-50-3P 694220-51-4P 694220-52-5P 694220-53-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NFKBIB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-58-1P 694220-59-2P 694220-60-5P 694220-61-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NFKBIE-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694222-71-4P 694222-72-5P 694222-73-6P 694222-74-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NNMT-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694217-31-7P 694217-32-8P 694217-33-9P 694217-34-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NOS2A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694222-11-2P 694222-12-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NOS3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-38-2P 694213-39-3P 694213-40-6P 694213-41-7P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1D1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-42-8P 694213-43-9P 694213-44-0P 694213-45-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1H2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-46-2P 694213-47-3P 694213-48-4P 694213-49-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1H3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-50-8P 694213-51-9P 694213-52-0P 694213-53-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1H4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-54-2P 694213-55-3P 694213-56-4P 694213-57-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1I2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-58-6P 694213-59-7P 694213-60-0P 694213-61-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR1I3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-62-2P 694213-63-3P 694213-64-4P 694213-65-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2C1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-66-6P 694213-67-7P 694213-68-8P 694213-69-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2C2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-70-2P 694213-71-3P 694213-72-4P 694213-73-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2E1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-74-6P 694213-75-7P 694213-76-8P 694213-77-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2E3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-78-0P 694213-79-1P 694213-80-4P 694213-81-5P 694213-83-7P

694213-84-8P 694213-85-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2F1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-82-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2F2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-86-0P 694213-87-1P 694213-88-2P 694213-89-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR2F6-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-90-6P 694213-91-7P 694213-92-8P 694213-93-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR3C1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-94-0P 694213-95-1P 694213-96-2P 694213-97-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR3C2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694213-98-4P 694213-99-5P 694214-00-1P 694214-01-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR4A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-02-3P 694214-03-4P 694214-04-5P 694214-05-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR4A2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-06-7P 694214-07-8P 694214-08-9P 694214-09-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR4A3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-10-3P 694214-11-4P 694214-12-5P 694214-13-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR5A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-14-7P 694214-15-8P 694214-16-9P 694214-17-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR5A2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- IT 694214-18-1P 694214-19-2P 694214-20-5P 694214-21-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NR6A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694213-30-4P 694213-31-5P 694213-32-6P 694213-33-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NROB1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694213-34-8P 694213-35-9P 694213-36-0P 694213-37-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NROB2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-48-2P 694207-49-3P 694207-50-6P 694207-51-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NTRK1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-52-8P 694207-53-9P 694207-54-0P 694207-55-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NTRK2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-56-2P 694207-57-3P 694207-58-4P 694207-59-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NTRK3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-62-7P 694220-63-8P 694220-64-9P 694220-65-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NUMA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-66-1P 694220-67-2P 694220-68-3P 694220-69-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of NUP153-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-42-6P 694221-43-7P 694221-44-8P 694221-45-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of Nramp1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-70-7P 694220-71-8P 694220-72-9P 694220-73-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of OPA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694211-79-5P 694211-80-8P 694211-81-9P 694211-82-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC1L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694211-83-1P 694211-84-2P 694211-85-3P 694211-86-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC2L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694211-87-5P 694211-88-6P 694211-89-7P 694211-90-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC3L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694211-91-1P 694211-92-2P 694211-93-3P 694211-94-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC4L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694211-95-5P 694211-96-6P 694211-97-7P 694211-98-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC5L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694211-99-9P 694212-00-5P 694212-01-6P 694212-02-7P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of ORC6L-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694215-93-5P 694215-94-6P 694215-95-7P 694215-96-8P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of OXTR-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694218-08-1P 694218-09-2P 694218-10-5P 694218-11-6P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of PAK1-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694218-12-7P 694218-13-8P 694218-14-9P 694218-15-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of PAK2-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

IT 694218-16-1P 694218-17-2P 694218-18-3P 694218-19-4P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
PRP (Properties); BIOL (Biological study); PREP (Preparation)
(nucleotide sequence of PAK3-specific siRNA; algorithms for rational
design and selection of functional and hyperfunctional siRNA for gene
silencing)

- IT 694218-20-7P 694218-21-8P 694218-22-9P 694218-23-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PAK4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-24-1P 694218-25-2P 694218-26-3P 694218-27-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PAK6-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-28-5P 694218-29-6P 694218-30-9P 694218-31-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PAK7-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-74-1P 694220-75-2P 694220-76-3P 694220-77-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PARVA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-03-8P 694212-04-9P 694212-05-0P 694212-06-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PCNA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694203-84-4P 694203-85-5P 694203-86-6P 694203-87-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDGF A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694203-88-8P 694203-89-9P 694203-90-2P 694203-91-3P 694203-92-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDGF B-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694207-60-8P 694207-61-9P 694207-62-0P 694207-63-1P 694207-64-2P
 694207-65-3P 694207-66-4P 694207-67-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDGFRA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-55-2P 694216-56-3P 694216-57-4P 694216-58-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDK1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-59-6P 694216-60-9P 694216-61-0P 694216-62-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDK2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- silencing)
- IT 694204-69-8P 694204-70-1P 694204-71-2P 694204-72-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PDPK1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694214-26-1P 694214-27-2P 694214-28-3P 694214-29-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PGR-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694222-33-8P 694222-34-9P 694222-35-0P 694222-36-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIGA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-73-4P 694204-74-5P 694204-75-6P 694204-76-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIK3CA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-77-8P 694204-78-9P 694204-79-0P 694204-80-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIK3CB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-78-5P 694220-79-6P 694220-80-9P 694220-81-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIK3CG-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-81-4P 694204-82-5P 694204-83-6P 694204-84-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIK3R1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694204-85-8P 694204-86-9P 694204-87-0P 694204-88-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIK3R2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-10-7P 694212-11-8P 694212-12-9P 694212-13-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIN1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-14-1P 694212-15-2P 694212-16-3P 694212-17-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PIN1L-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

silencing)

IT 694218-64-9P 694218-65-0P 694218-66-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PLCG1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694202-94-3P 694202-95-4P 694202-96-5P 694202-97-6P 694212-07-2P
 694212-08-3P 694212-09-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PLK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-30-7P 694214-31-8P 694214-32-9P 694214-33-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PPARA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-34-1P 694214-35-2P 694214-36-3P 694214-37-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PPARD-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-38-5P 694214-39-6P 694214-40-9P 694214-41-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PPARG-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694216-63-2P 694216-64-3P 694216-65-4P 694216-66-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PPP2CA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694204-89-2P 694204-90-5P 694204-91-6P 694204-92-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PPP2R2B-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694218-96-7P 694218-97-8P 694218-98-9P 694218-99-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PRKCA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-82-1P 694220-83-2P 694220-84-3P 694220-85-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PRKDC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694222-52-1P 694222-53-2P 694222-54-3P 694222-55-4P 694222-56-5P
 694222-57-6P 694222-58-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of PSEN1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694222-59-8P 694222-60-1P 694222-61-2P 694222-62-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PSEN2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694216-09-6P 694216-10-9P 694216-11-0P 694216-12-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTCH-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694204-93-8P 694204-94-9P 694204-95-0P 694204-96-1P 694216-51-8P
 694216-52-9P 694216-53-0P 694216-54-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTEN-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-68-6P 694207-69-7P 694207-70-0P 694207-71-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-72-2P 694207-73-3P 694207-74-4P 694207-75-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK2B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-76-6P 694207-77-7P 694207-78-8P 694207-79-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-80-2P 694207-81-3P 694207-82-4P 694207-83-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK7-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-84-6P 694207-85-7P 694207-86-8P 694207-87-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK9-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694207-88-0P 694207-89-1P 694207-90-4P 694207-91-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PTK9L-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694217-01-1P 694217-02-2P 694217-03-3P 694217-04-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of PVR-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-56-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of QB1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-57-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of QB2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-58-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of QB3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-59-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of QB4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694202-74-9P 694202-75-0P 694202-76-1P 694202-77-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAB5A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694202-78-3P 694202-79-4P 694202-80-7P 694202-81-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAB5B-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694202-82-9P 694202-83-0P 694202-84-1P 694202-85-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAB5C-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-18-5P 694212-19-6P 694212-20-9P 694212-21-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAD1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-22-1P 694212-23-2P 694212-24-3P 694212-25-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAD17-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-26-5P 694212-27-6P 694212-28-7P 694212-29-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RAD9A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694218-92-3P 694218-93-4P 694218-94-5P 694218-95-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RALGDS-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-42-1P 694214-43-2P 694214-44-3P 694214-45-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RARA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-46-5P 694214-47-6P 694214-48-7P 694214-49-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RARB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-50-1P 694214-51-2P 694214-52-3P 694214-53-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RARG-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694220-86-5P 694220-87-6P 694220-88-7P 694220-89-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RASA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-30-1P 694212-31-2P 694212-32-3P 694212-33-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RBL1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-34-5P 694212-35-6P 694212-36-7P 694212-37-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RBBP2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-38-9P 694212-39-0P 694212-40-3P 694212-41-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RBL1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-42-5P 694212-43-6P 694212-44-7P 694212-45-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RBL2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-46-9P 694212-47-0P 694212-48-1P 694212-49-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RBP1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694217-89-5P 694217-90-8P 694217-91-9P 694217-92-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RELA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694207-92-6P 694207-93-7P 694207-94-8P 694207-95-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RET-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694218-48-9P 694218-49-0P 694218-50-3P 694218-51-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RIPK2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694218-04-7P 694218-05-8P 694218-06-9P 694218-07-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ROCK1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694207-96-0P 694207-97-1P 694207-98-2P 694207-99-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ROR1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-00-9P 694208-01-0P 694208-02-1P 694208-03-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ROR2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-54-5P 694214-55-6P 694214-56-7P 694214-57-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RORA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-58-9P 694214-59-0P 694214-60-3P 694214-61-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RORB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-62-5P 694214-63-6P 694214-64-7P 694214-65-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RORC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-04-3P 694208-05-4P 694208-06-5P 694208-07-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of ROS1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-50-5P 694212-51-6P 694212-52-7P 694212-53-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RPA3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694204-97-2P 694204-98-3P 694204-99-4P 694205-00-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RPS6-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-01-1P 694205-02-2P 694205-03-3P 694205-04-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RPS6KA1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-05-5P 694205-06-6P 694205-07-7P 694205-08-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RPS6KA3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-66-9P 694214-67-0P 694214-68-1P 694214-69-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RXRA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-70-5P 694214-71-6P 694214-72-7P 694214-73-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RXRB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694214-74-9P 694214-75-0P 694214-76-1P 694214-77-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RXRG-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694208-08-7P 694208-09-8P 694208-10-1P 694208-11-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of RYK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694205-09-9P 694205-10-2P 694205-11-3P 694205-12-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SGK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-54-9P 694212-55-0P 694212-56-1P 694212-57-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);

PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SKP1A-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694212-58-3P 694212-59-4P 694212-60-7P 694212-61-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SKP2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-26-4P 694215-27-5P 694215-28-6P 694215-29-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC21A2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-30-0P 694215-31-1P 694215-32-2P 694215-33-3P 694215-34-4P
 694215-35-5P 694215-36-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC21Z3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-53-7P 694215-54-8P 694215-55-9P 694215-56-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC26A2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-37-7P 694215-38-8P 694215-39-9P 694215-40-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC28A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-41-3P 694215-42-4P 694215-43-5P 694215-44-6P 694215-45-7P
 694215-46-8P 694215-47-9P 694215-48-0P 694215-49-1P 694215-50-4P
 694215-51-5P 694215-52-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC29A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694217-27-1P 694217-28-2P 694217-29-3P 694217-30-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC2A4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-57-1P 694215-58-2P 694215-59-3P 694215-60-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC4A4-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694215-18-4P 694215-19-5P 694215-20-8P 694215-21-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC6A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

- silencing)
- IT 694215-22-0P 694215-23-1P 694215-24-2P 694215-25-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC6A2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-90-1P 694220-91-2P 694220-92-3P 694220-93-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SLC9A1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-90-5P 694216-91-6P 694216-92-7P 694216-93-8P 694216-94-9P
 694216-95-0P 694216-96-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SMAC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694216-13-2P 694216-14-3P 694216-15-4P 694216-16-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SMO-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-62-9P 694212-63-0P 694212-64-1P 694212-65-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SNK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694217-09-9P 694217-10-2P 694217-11-3P 694217-12-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SOS1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-46-0P 694221-47-1P 694221-48-2P 694221-49-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SPINK5-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694208-12-3P 694208-13-4P 694208-14-5P 694208-15-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SRC-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694218-75-2P 694218-76-3P 694218-77-4P 694218-78-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of STAT1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-99-3P 694222-00-9P 694222-01-0P 694222-02-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of STAT6-specific siRNA; algorithms for rational

- design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-66-3P 694212-67-4P 694212-68-5P 694212-69-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of STK12-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-67-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of STK6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-16-7P 694208-17-8P 694208-18-9P 694208-19-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SYK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-38-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SeAP1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-39-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SeAP2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-40-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SeAP3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-41-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of SeAP4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-71-1P 694221-72-2P 694221-73-3P 694221-74-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TAP1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-20-3P 694208-21-4P 694208-22-5P 694208-23-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TEC-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694220-94-5P 694220-95-6P 694220-96-7P 694220-97-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TEGT-specific siRNA; algorithms for rational

- design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-24-7P 694208-25-8P 694208-26-9P 694208-27-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TEK-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694220-98-9P 694220-99-0P 694221-00-6P 694221-01-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TERT-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-70-9P 694212-71-0P 694212-72-1P 694212-73-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TFDP1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694212-74-3P 694212-75-4P 694212-76-5P 694212-77-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TFDP2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694214-78-3P 694214-79-4P 694214-80-7P 694214-81-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of THRA-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694214-82-9P 694214-83-0P 694214-84-1P 694214-85-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of THRB-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694208-28-1P 694208-29-2P 694208-30-5P 694208-31-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TIE-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694217-45-3P 694217-46-4P 694217-47-5P 694217-48-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TNFRSF1A-specific siRNA; algorithms for
 rational design and selection of functional and hyperfunctional siRNA
 for gene silencing)
- IT 694217-84-0P 694217-85-1P 694217-86-2P 694217-87-3P 694217-88-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TNFRSF5-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)
- IT 694221-02-8P 694221-03-9P 694221-04-0P 694221-05-1P 694221-06-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TNFRSF6-specific siRNA; algorithms for rational

- design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-32-7P 694208-33-8P 694208-34-9P 694208-35-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TNK1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-07-3P 694221-08-4P 694221-09-5P 694221-10-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TOP1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-11-9P 694221-12-0P 694221-13-1P 694221-14-2P 694221-16-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TOP2A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-15-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TOP3A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-78-7P 694212-79-8P 694212-80-1P 694212-81-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TP53-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-82-3P 694212-83-4P 694212-84-5P 694212-85-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TP63-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-86-7P 694212-87-8P 694212-88-9P 694212-89-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TP73-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-66-8P 694217-67-9P 694217-68-0P 694217-69-1P 694217-70-4P
 694217-71-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TRADD-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-57-7P 694217-58-8P 694217-59-9P 694217-60-2P 694217-61-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TRAF2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694217-62-4P 694217-63-5P 694217-64-6P 694217-65-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of TRAF6-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694205-13-5P 694205-14-6P 694205-15-7P 694205-16-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TSC1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694205-17-9P 694205-18-0P 694205-19-1P 694205-20-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TSC2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694208-36-1P 694208-37-2P 694208-38-3P 694208-39-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TXK-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694208-40-7P 694208-41-8P 694208-42-9P 694208-43-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TYK2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694208-44-1P 694208-45-2P 694208-46-3P 694208-47-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of TYRO3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694218-52-5P 694218-53-6P 694218-54-7P 694218-55-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of VAV1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694218-56-9P 694218-57-0P 694218-58-1P 694218-59-2P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of VAV2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694214-86-3P 694214-87-4P 694214-88-5P 694214-89-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of VDR-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694221-23-3P 694221-24-4P 694221-25-5P 694221-26-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of WEE1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694215-73-1P 694215-74-2P 694215-75-3P 694215-76-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of XPNPEP1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694205-21-5P 694205-22-6P 694205-23-7P 694205-24-8P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of XPO1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694208-48-5P 694208-49-6P 694208-50-9P 694208-51-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of YES1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694212-90-3P 694212-91-4P 694212-92-5P 694212-93-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of YWHAZ-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-58-4P 694221-59-5P 694221-60-8P 694221-61-9P 694221-62-0P
 694221-63-1P 694221-64-2P 694221-65-3P 694221-66-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of activin A **receptor** IB-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694222-75-8P 694222-76-9P 694222-77-0P 694222-78-1P 694222-79-2P
 694222-80-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of angiotensin II type 1 **receptor**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-02-6P 694203-03-7P 694203-04-8P 694203-05-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of c-Myc-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-18-4P 694203-19-5P 694203-20-8P 694203-21-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of cyclophilin A-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-26-4P 694203-27-5P 694203-28-6P 694203-29-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of cyclophilin B-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694199-63-8P 694199-64-9P 694199-65-0P 694199-66-1P 694199-67-2P
 694199-68-3P 694199-69-4P 694199-70-7P 694199-71-8P 694199-72-9P
 694199-73-0P 694199-74-1P 694199-75-2P 694199-76-3P 694199-77-4P
 694199-78-5P 694199-79-6P 694199-80-9P 694199-81-0P 694199-82-1P
 694199-83-2P 694199-84-3P 694199-85-4P 694199-86-5P 694199-87-6P
 694199-88-7P 694199-89-8P 694199-90-1P 694199-91-2P 694199-92-3P
 694199-93-4P 694199-94-5P 694199-95-6P 694199-96-7P 694199-97-8P

694199-98-9P	694199-99-0P	694200-00-5P	694200-01-6P	694200-02-7P
694200-03-8P	694200-04-9P	694200-05-0P	694200-06-1P	694200-07-2P
694200-08-3P	694200-09-4P	694200-10-7P	694200-11-8P	694200-12-9P
694200-13-0P	694200-14-1P	694200-15-2P	694200-16-3P	694200-17-4P
694200-18-5P	694200-19-6P	694200-20-9P	694200-21-0P	694200-22-1P
694200-23-2P	694200-24-3P	694200-25-4P	694200-26-5P	694200-27-6P
694200-28-7P	694200-29-8P	694200-30-1P	694200-31-2P	694200-32-3P
694200-33-4P	694200-34-5P	694200-35-6P	694200-36-7P	694200-37-8P
694200-38-9P	694200-39-0P	694200-40-3P	694200-41-4P	694200-42-5P
694200-43-6P	694200-44-7P	694200-45-8P	694200-46-9P	694200-47-0P
694200-48-1P	694200-49-2P	694200-50-5P	694200-51-6P	

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of cyclophilin-specific siRNA; algorithms for
 rational design and selection of functional and hyperfunctional siRNA
 for gene silencing)

IT	694200-52-7P	694200-53-8P	694200-54-9P	694200-55-0P	694200-56-1P
	694200-57-2P	694200-58-3P	694200-59-4P	694200-60-7P	694200-61-8P
	694200-62-9P	694200-63-0P	694200-64-1P	694200-65-2P	694200-66-3P
	694200-67-4P	694200-68-5P	694200-69-6P	694200-70-9P	694200-71-0P
	694200-72-1P	694200-73-2P	694200-74-3P	694200-75-4P	694200-76-5P
	694200-77-6P	694200-78-7P	694200-79-8P	694200-80-1P	694200-81-2P
	694200-82-3P	694200-83-4P	694200-84-5P	694200-85-6P	694200-86-7P
	694200-87-8P	694200-88-9P	694200-89-0P	694200-90-3P	694200-91-4P
	694200-92-5P	694200-93-6P	694200-94-7P	694200-95-8P	694200-96-9P
	694200-97-0P	694200-98-1P	694200-99-2P	694201-00-8P	694201-01-9P
	694201-02-0P	694201-03-1P	694201-04-2P	694201-05-3P	694201-06-4P
	694201-07-5P	694201-08-6P	694201-09-7P	694201-10-0P	694201-11-1P
	694201-12-2P	694201-13-3P	694201-14-4P	694201-15-5P	694201-16-6P
	694201-17-7P	694201-18-8P	694201-19-9P	694201-20-2P	694201-21-3P
	694201-22-4P	694201-23-5P	694201-24-6P	694201-25-7P	694201-26-8P
	694201-27-9P	694201-28-0P	694201-29-1P	694201-30-4P	694201-31-5P
	694201-32-6P	694201-33-7P	694201-34-8P	694201-35-9P	694201-36-0P
	694201-37-1P	694201-38-2P	694201-39-3P	694201-40-6P	694201-41-7P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of diazepam binding **inhibitor**-specific
 siRNA; algorithms for rational design and selection of functional and
 hyperfunctional siRNA for gene silencing)

IT 694203-42-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of fLUC1-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-43-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of fLUC2-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-44-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of fLUC3-specific siRNA; algorithms for rational
 design and selection of functional and hyperfunctional siRNA for gene
 silencing)

IT 694203-45-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
 PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of fLUC4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694222-37-2P 694222-38-3P 694222-39-4P 694222-40-7P 694222-41-8P
694222-42-9P 694222-43-0P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of factor VIII-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694201-42-8P 694201-43-9P 694201-44-0P 694201-45-1P 694201-46-2P
694201-47-3P 694201-48-4P 694201-49-5P 694201-50-8P 694201-51-9P
694201-52-0P 694201-53-1P 694201-54-2P 694201-55-3P 694201-56-4P
694201-57-5P 694201-58-6P 694201-59-7P 694201-60-0P 694201-61-1P
694201-62-2P 694201-63-3P 694201-64-4P 694201-65-5P 694201-66-6P
694201-67-7P 694201-68-8P 694201-69-9P 694201-70-2P 694201-71-3P
694201-72-4P 694201-73-5P 694201-74-6P 694201-75-7P 694201-76-8P
694201-77-9P 694201-78-0P 694201-79-1P 694201-80-4P 694201-81-5P
694201-82-6P 694201-83-7P 694201-84-8P 694201-85-9P 694201-86-0P
694201-87-1P 694201-88-2P 694201-89-3P 694201-90-6P 694201-91-7P
694201-92-8P 694201-93-9P 694201-94-0P 694201-95-1P 694201-96-2P
694201-97-3P 694201-98-4P 694201-99-5P 694202-00-1P 694202-01-2P
694202-02-3P 694202-03-4P 694202-04-5P 694202-05-6P 694202-06-7P
694202-07-8P 694202-08-9P 694202-09-0P 694202-10-3P 694202-11-4P
694202-12-5P 694202-13-6P 694202-14-7P 694202-15-8P 694202-16-9P
694202-17-0P 694202-18-1P 694202-19-2P 694202-20-5P 694202-21-6P
694202-22-7P 694202-23-8P 694202-24-9P 694202-25-0P 694202-26-1P
694202-27-2P 694202-28-3P 694202-29-4P 694202-30-7P 694202-31-8P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of firefly luciferase-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694203-72-0P 694203-73-1P 694203-74-2P 694203-75-3P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of glutamine:fructose 6-phosphate aminotransferase-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694221-34-6P 694221-35-7P 694221-36-8P 694221-37-9P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of interferon γ **receptor** 1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694221-27-7P 694221-28-8P 694221-29-9P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of interleukin 4 **receptor**-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694203-22-0P 694203-23-1P 694203-24-2P 694203-25-3P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(nucleotide sequence of lamin A/C-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694203-46-8P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

- (nucleotide sequence of mCyclo_1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-47-9P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of mCyclo_2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-48-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of mCyclo_3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-49-1P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of mCyclo_4-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694221-38-0P 694221-39-1P 694221-40-4P 694221-41-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of matrix metalloproteinase MMP-9-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694199-32-1 694199-33-2 694199-34-3 694199-35-4 694199-36-5
 694199-37-6 694199-38-7 694199-39-8 694199-40-1 694199-41-2
 694199-42-3 694199-43-4 694199-44-5 694199-45-6 694199-46-7
 694199-47-8 694199-48-9 694199-49-0 694199-50-3 694199-51-4
 694199-52-5 694199-53-6 694199-54-7 694199-55-8 694199-56-9
 694199-57-0 694199-58-1 694199-59-2
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (nucleotide sequence of optimized siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-34-4P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of rLUC1-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-35-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of rLUC2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-36-6P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of rLUC3-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)
- IT 694203-37-7P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of rLUC4-specific siRNA; algorithms for rational

design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694199-60-5 694199-61-6 694199-62-7
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (nucleotide sequence of siRNA target; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694214-22-7P 694214-23-8P 694214-24-9P 694214-25-0P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694221-54-0P 694221-55-1P 694221-56-2P 694221-57-3P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of thymosin β 4Y-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694221-30-2P 694221-31-3P 694221-32-4P 694221-33-5P
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)
 (nucleotide sequence of β -arrestin 2-specific siRNA; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

IT 694224-43-6 694224-44-7 694224-47-0 694224-48-1 694224-49-2
 694224-50-5 694224-51-6 694224-52-7 694224-53-8 694224-54-9
 RL: PRP (Properties)
 (unclaimed sequence; algorithms for rational design and selection of functional and hyperfunctional siRNA for gene silencing)

L40 ANSWER 7 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:287786 HCAPLUS
 DN 140:315100
 ED Entered STN: 08 Apr 2004
 TI Agents that modulate Eph receptor activity, therapeutic use, and screening methods
 IN Pasquale, Elena B.; Koolpe, Mitchell; Murai, Keith K.
 PA The Burnham Institute, USA
 SO PCT Int. Appl., 97 pp.
 CODEN: PIXXD2

DT Patent
 LA English
 IC ICM A61K038-00
 ICS G01N033-53; C07K014-00
 CC 1-12 (Pharmacology)
 Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004028551	A1	20040408	WO 2003-US27328	20030829 <--
	WO 2004028551	C2	20040701		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				

FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 US 2004180823 A1 20040916 US 2003-652407 20030829 <--
 PRAI US 2002-413242P P 20020924 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004028551	ICM	A61K038-00
	ICS	G01N033-53; C07K014-00
WO 2004028551	ECLA	A61K047/48R2; A61K049/00F; C07K014/52; G01N033/68D <--
US 2004180823	NCL	514/012.000; 530/350.000
	ECLA	A61K049/00F; G01N033/68D <--
AB	Agents are described that bind to Eph receptors . Methods of using these agents to modulate the activity of Eph receptors , stimulate apoptosis, and deliver therapeutic agents are also described. Methods of screening for agents capable of selectively binding to Eph receptors are also described.	
ST	Eph receptor ligand screening therapeutic delivery apoptosis	
IT	Tyrosine kinase receptors RL: BSU (Biological study, unclassified); BIOL (Biological study) (Eph receptor ; agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	Antitumor agents Apoptosis Drug delivery systems Drug screening Human Mental retardation NMR spectroscopy Neoplasm Nervous system agents Peptide library Peptidomimetics Phage display library Signal transduction, biological (agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	Isotopomers Ligands Peptides, biological studies RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	NMR spectroscopy (carbon-13; agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	Imaging agents (conjugates with Eph receptor ligands; agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	Nerve, disease Nervous system, disease (degeneration; agents modulating Eph receptor activity, therapeutic use, and screening methods)	
IT	Proteins RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin A ; agents modulating Eph receptor activity, therapeutic use, and screening methods)	

- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin B4**; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor 1**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor**
2; agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor 3**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor 4**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor 5**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor, EphA6**; agents
modulating **Eph receptor** activity, therapeutic use,
and screening methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor, EphA7**; agents
modulating **Eph receptor** activity, therapeutic use,
and screening methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor, EphA8**; agents
modulating **Eph receptor** activity, therapeutic use,
and screening methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-B receptor 1**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-B receptor 6**; agents modulating
Eph receptor activity, therapeutic use, and screening
methods)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-B receptor, EphB2**; agents
modulating **Eph receptor** activity, therapeutic use,
and screening methods)
- IT **Tyrosine kinase receptors**

- RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-B receptor, EphB3**; agents
modulating **Eph receptor** activity, therapeutic use,
and screening methods)
- IT **Proteins**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin**; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT NMR spectroscopy
(fluorine-19; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT Regeneration, animal
(nerve; agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)
- IT NMR (nuclear magnetic resonance)
(nitrogen-15; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT Phosphorylation, biological
(**protein**; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT Nerve
(regeneration; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT Therapy
(therapeutic agent-**Eph receptor** ligand conjugates;
agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)
- IT Injury
(trauma, traumatic injury; agents modulating **Eph**
receptor activity, therapeutic use, and screening methods)
- IT Injury
(traumatic; agents modulating **Eph receptor**
activity, therapeutic use, and screening methods)
- IT 14390-96-6, Nitrogen-15, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(42agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)
- IT 248259-60-1, **Ephrin-A8 receptor tyrosine**
kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphA8 receptor tyrosine kinase**
; agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)
- IT 7782-41-4, Fluorine-19, biological studies 12385-13-6, Hydrogen atom,
biological studies 14762-74-4, Carbon-13, biological studies
142243-02-5, MAP kinase 146279-97-2, **EphB2**
receptor tyrosine kinase 149433-90-9,
EphB1 receptor tyrosine kinase
149433-91-0, **EphA2 receptor tyrosine**
kinase 149433-92-1, **Ephrin receptor**
tyrosine kinase 160995-45-9, **EphA5**
receptor tyrosine kinase 167398-03-0,
EphA4 receptor tyrosine kinase
204463-92-3, **EphA3 receptor tyrosine**
kinase 204934-34-9, **EphB3 receptor**
tyrosine kinase 205132-72-5, **EphA7**
receptor tyrosine kinase 205132-73-6,
EphA6 receptor tyrosine kinase
216974-70-8, **EphB4 receptor tyrosine**
kinase 225227-27-0, **EphB6 receptor**

tyrosine kinase

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)

IT 207452-60-6 506411-75-2 532441-09-1 532441-10-4 532441-11-5
532441-12-6 676656-99-8 676657-00-4 676657-01-5 676657-02-6
676657-04-8 676657-05-9 676657-06-0 676657-07-1 677716-95-9
677716-96-0 677716-97-1

RL: BSU (Biological study, unclassified); PAC (Pharmacological activity);
PRP (Properties); BIOL (Biological study)
(agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)

IT 677716-98-2 677716-99-3 677717-00-9 677717-01-0 677717-02-1
677717-03-2 677717-05-4 677717-06-5 677717-07-6 677717-08-7
677717-09-8 677717-10-1 677717-11-2 677717-12-3 677717-13-4
677717-14-5 677717-15-6 677717-16-7 677717-17-8 677717-18-9
677717-19-0 677717-20-3 677717-21-4 677717-22-5 677717-23-6
677717-24-7 677717-25-8 677717-26-9 677717-27-0

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)

(agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)

IT 9001-78-9D, Alkaline phosphatase, **ephrin** fusion products

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)

(agents modulating **Eph receptor** activity,
therapeutic use, and screening methods)

IT 153369-29-0 677716-82-4 677716-83-5 677716-84-6 677716-85-7
677716-86-8 677716-87-9 677716-88-0 677716-89-1 677716-90-4
677716-91-5 677716-92-6 677716-93-7 677716-94-8 677717-28-1
677717-29-2 677717-30-5 677717-31-6 677717-32-7 677717-33-8
677717-34-9 677717-35-0

RL: PRP (Properties)

(unclaimed sequence; agents that modulate **Eph**
receptor activity, therapeutic use, and screening methods)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Mount Sinai Hospital; WO 0037500 A1 2000 HCAPLUS

L40 ANSWER 8 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:142894 HCAPLUS

DN 140:180141

ED Entered STN: 22 Feb 2004

TI **EphA2** agonistic monoclonal antibodies for treating epithelial
cancer, carcinoma and metastasis

IN **Kinch, Michael S.**; Carles-Kinch, Kelly

PA Purdue Research Foundation, USA

SO PCT Int. Appl., 126 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K

CC 15-3 (Immunochemistry)

Section cross-reference(s): 3, 9, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004014292	A2	20040219	WO 2003-US15046	20030512 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2485548	AA	20040219	CA 2003-2485548	20030512 <--
US 2004091486	A1	20040513	US 2003-436783	20030512 <--
PRAI US 2002-379368P	P	20020510	<--	
US 2002-418204P	P	20021014	<--	
US 2003-460358P	P	20030403	<--	
WO 2003-US15046	W	20030512		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 2004014292	ICM	A61K	
WO 2004014292	ECLA	C07K016/24; C07K016/30; C07K016/30B; C07K016/30P	<--
US 2004091486	NCL	424/155.100	
	ECLA	C07K016/30S	<--

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of cancer, particularly, metastatic cancer. The methods of the invention comprise the administration of an effective amount of one or more antibodies that bind to and agonize **Epha2**, thereby increasing **Epha2** phosphorylation and decreasing **Epha2** levels in cells which **Epha2** has been agonized. The invention also encompasses antibodies that preferentially bind an **Epha2** epitope exposed on cancer cells but not non-cancer cells. The invention also provides pharmaceutical compns. comprising one or more **Epha2** antibodies of the invention either alone or in combination with one or more other agents useful for cancer therapy.

ST **Epha2** agonist monoclonal antibody hybridoma cancer carcinoma metastasis therapy

IT Animal cell line
 Antitumor agents
 Bladder, neoplasm
 Blood analysis
 Carcinoma
 Carcinoma
 Chemotherapy
 Drug screening
 Epithelium
 Epitopes
 Genetic vectors
 Human
 Immunotherapy
 Kidney, neoplasm
 Lung, neoplasm
 Mammary gland, neoplasm
 Neoplasm
 Pancreas, neoplasm
 Phosphorylation, biological
 Prostate gland, neoplasm
 Protein sequences
 Radiotherapy
 Skin, neoplasm
 Surgery
 Urine analysis
 cDNA sequences

(**Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Antibodies and Immunoglobulins
 RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (**Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Nucleic acids
 RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (**Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Ligands
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Hybridoma
 (PTA-4380; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Hybridoma
 (PTA-4381; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Blood serum
 Sputum
 (anal.; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Body fluid
 Needles (tools)
 (aspirates; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Health products
 (biologicals; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Carcinoma
 (bladder; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Diagnosis
 (cancer; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Bladder, neoplasm
 Lung, neoplasm
 Mammary gland, neoplasm
 Pancreas, neoplasm
 Prostate gland, neoplasm
 Skin, neoplasm
 (carcinoma; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Drug delivery systems
 (carriers; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Biology
 (cell, host; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Intestine, neoplasm
 (colon, carcinoma; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)

IT Carcinoma

- Intestine, neoplasm
(colon; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma
(cutaneous; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Immunoassay
(enzyme-linked immunosorbent assay; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT **Tyrosine kinase receptors**
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**ephrin type-A receptor**
2; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Cytometry
(flow; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(heavy chain; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(humanized; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Diagnosis
(immunodiagnosis; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Immunoassay
(immunofluorescence microscopy; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(light chain; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma
(mammary; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Neoplasm
(metastasis; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Antibodies and Immunoglobulins
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(monoclonal; **Epha2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma

- (pancreatic; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma
(prostatic; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma
(pulmonary; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Kidney, neoplasm
(renal cell carcinoma; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Carcinoma
(renal cell; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT Hormones, animal, biological studies
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapy; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 176714-45-7 625812-84-2 625812-85-3 625812-86-4 625812-87-5 625812-88-6
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 149433-91-0, **EphA2 receptor tyrosine kinase**
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 21820-51-9, **Phosphotyrosine**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 660006-49-5P 660006-50-8P
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 660006-51-9P 660006-52-0P
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 10540-29-1, Tamoxifen
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sensitivity enhancement; **EphA2** agonistic monoclonal antibodies for treating epithelial cancer, carcinoma and metastasis)
- IT 660007-56-7 660007-57-8 660007-58-9 660007-59-0 660007-60-3 660062-76-0
RL: PRP (Properties)
(unclaimed nucleotide sequence; **ephA2** agonistic monoclonal

antibodies for treating epithelial cancer, carcinoma and metastasis)

L40 ANSWER 9 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:98325 HCAPLUS
 DN 140:268510
 ED Entered STN: 06 Feb 2004
 TI **Inhibition of VEGF-dependent multistage carcinogenesis by soluble EphA receptors**
 AU Cheng, Nikki; Brantley, Dana; Fang, Wei Bin; Liu, Hua; Fanslow, William; Cerretti, Douglas Pat; Bussell, Katrin N.; Reith, Alastair D.; Jackson, Dowdy; Chen, Jin
 CS Department of Cancer Biology and Vanderbilt-Ingram Cancer Center, Vanderbilt University School of Medicine, Nashville, TN, 37232, USA
 SO Neoplasia (Wilton, CT, United States) (2003), 5(5), 445-456
 CODEN: NEOPFL; ISSN: 1522-8002
 PB Neoplasia Press Inc.
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 Section cross-reference(s): 2
 AB Elevated expression of **Eph receptors** has long been correlated with the growth of solid tumors. However, the functional role of this family of **receptor tyrosine kinases** in carcinogenesis and tumor angiogenesis has not been well characterized. Here the authors report that soluble **EphA receptors** **inhibit** tumor angiogenesis and tumor progression in vivo in the RIP-Tag transgenic model of vascular endothelial growth factor (VEGF)-dependent multistage pancreatic islet cell carcinoma. Soluble **EphA receptors** delivered either by a transgene or an osmotic minipump **inhibited** the formation of angiogenic islet, a premalignant lesion, and reduced tumor volume of solid islet cell carcinoma. **EphA2-Fc** or **EphA3-Fc** treatment resulted in decreased tumor volume but increased tumor and endothelial cell apoptosis in vivo. In addition, soluble **EphA receptors** **inhibited** VEGF and β TC tumor cell-conditioned medium-induced endothelial cell migration in vitro and VEGF-induced cornea angiogenesis in vivo. A dominant neg. **EphA2** mutant **inhibited**, whereas a gain-of-function **EphA2** mutant enhanced, tumor cell-induced endothelial cell migration, suggesting that **EphA2 receptor** activation is required for tumor cell-endothelial cell interaction. These data provide functional evidence for **EphA** class **receptor** regulation of VEGF-dependent tumor angiogenesis, suggesting that the **EphA** signaling pathway may represent an attractive novel target for antiangiogenic therapy in cancer.
 ST **EphA receptor inhibition** VEGF carcinogenesis pancreatic islet
 IT Pancreatic islet of Langerhans, neoplasm
 (carcinoma; soluble **EphA receptor** **inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin type-A receptor 2; soluble **EphA receptor** **inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin type-A receptor 3; soluble **EphA receptor** **inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)
 IT Carcinoma

(pancreatic islet; soluble **EphA receptor inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)

IT Transformation, neoplastic
(soluble **EphA receptor inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)

IT Angiogenesis
Apoptosis
(soluble **EphA receptor inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis in relation to)

IT 127464-60-2, Vascular endothelial growth factor
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(soluble **EphA receptor inhibition** of VEGF-dependent multistage pancreatic islet cell carcinogenesis)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 10 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:60252 HCAPLUS

DN 140:128427

ED Entered STN: 26 Jan 2004

TI Preparation of quinazolines as **ephrin** and **EGFR receptor kinase** modulators for treating cancer and other disorders

IN Rice, Kenneth D.; Anand, Neel Kumar; Bussenius, Joerg; Costanzo, Simona; Kennedy, Abigail R.; Kim, Angie I.; Peto, Csaba J.; Tsang, Tsze H.; Blazey, Charles M.

PA Exelixis, Inc., USA

SO PCT Int. Appl., 266 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K

CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1, 33, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2004006846	A2	20040122	WO 2003-US21923	20030714 <--	
	WO 2004006846	A3	20040715			
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	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
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	EP 1521747	A2	20050413	EP 2003-764599	20030714 <--	
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK		
PRAI	US 2002-396269P	P	20020715	<--		
	US 2003-447212P	P	20030213	<--		
	WO 2003-US21923	W	20030714			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004006846	ICM	A61K
WO 2004006846	ECLA	C07D239/94; C07D401/12+239+211; C07D401/12+239+213; C07D403/12+239+209; C07D403/12+239+231; C07D405/12+307B+239; C07D405/12+319+239; C07D413/12+265D+239; C07D413/12+271+239; C07D417/12+277B+239; C07D451/06C; C07D471/04+221A+221AC07D403/12+239+209; C07D487/04+241C+209C; C07D487/04+241C+221C; C07D493/04+307B+307B+2; C07D498/04+265C+209C; C07D498/04+265C+265C+2

OS MARPAT 140:128427 <--

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention provides quinazolines (shown as I; variables defined below; e.g. II and III) for modulating **receptor tyrosine kinase** activity, particularly **ephrin** and **EGFR**, and methods of treating diseases mediated by **receptor kinase** activity using the compds. and pharmaceutical compns. thereof. Diseases mediated by **receptor kinase** activity include, but are not limited to, diseases characterized in part by abnormal levels of cell proliferation (i.e. tumor growth), programmed cell death (apoptosis), cell migration and invasion and angiogenesis associated with tumor growth. Compds. of the invention include 'spectrum selective' **kinase** modulators, compds. that **inhibit**, regulate and/or modulate signal transduction across subfamilies of **receptor-type tyrosine kinases**, including **ephrin** and **EGFR**. **Inhibitory** activities for >200 examples of I are tabulated for some or all of **EphB4**, **EphA2**, **KDR**, **Flt-1**, **EGFR** and **ErbB2 kinases**. Although the methods of preparation are not claimed,

37 example preps. are included. For example, 1,4:3,6-dianhydro-2-O-[4-[(3-chloro-2-methylphenyl)amino]-6-(methyloxy)quinazolin-7-yl]-5-O-methyl-L-iditol hydrochloride was prepared in 2 steps (94, 51 % yields, resp.) starting with mesylation of 1,4:3,6-dianhydro-2-O-methyl-D-glucitol followed by ether formation of the intermediate 1,4:3,6-dianhydro-2-O-methyl-5-O-(methysulfonyl)-D-glucitol with 4-[(3,4-dichlorophenyl)amino]-6-(methyloxy)quinazolin-7-ol; the quinazolinol was prepared in 64 % yield from 4-chloro-6-(methyloxy)-7-[(phenylmethyl)oxy]quinazoline hydrochloride and 3,4-dichloroaniline. For I: R1 is C1-C3 (un)substituted alkyl; R2 = H, halogen, trihalomethyl, CN, NH2, NO2, OR3, N(R3)R4, S(O)O-2R4, SO2N(R3)R4, CO2R3, C(O)N(R3)R4, N(R3)SO2R4, N(R3)C(O)R3, N(R3)CO2R4, C(O)R3, (un)substituted lower alkyl, (un)substituted lower alkenyl, and (un)substituted lower alkynyl; R3 is H or R4; R4 = (un)substituted lower alkyl, (un)substituted aryl, (un)substituted lower arylalkyl, (un)substituted heterocyclyl, and (un)substituted lower heterocyclylalkyl; or R3 and R4, when taken together with a common N to which they are attached, form an (un)substituted 5-7-membered heterocyclyl, said (un)substituted five-to seven-membered heterocyclyl optionally containing at least one addnl. heteroatom = N, O, S, and P. Q is 0-5; Z = OCH2, O, S(O)O-2, N(R5)CH2, and NR5; R5 is -H or (un)substituted lower alkyl; M1 is H, (un)substituted C1-C8 alkyl-L2-L1, G(CH2)O-3, or R53(R54)N(CH2)O-3; wherein G is a saturated 5-7-membered heterocyclyl containing 1-2 annular heteroatoms; L1 is C:O or SO2; L2 is a direct bond, O, or NH; M2 is a saturated or mono- or polyunsatd. C3-C14 mono- or fused-polycyclic hydrocarbyl optionally containing 1-3 annular heteroatoms per ring; M3 is NR9, O, or absent; M4 is CH2, CH2CH2, CH2CH2CH2, or absent; addnl. details are given in the claims.

ST quinazoline prepn **ephrin** EGFR receptor kinase inhibitor antitumor compn

IT Alditols

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and other disorders)

IT Antitumor agents

Apoptosis

Drug delivery systems

Human

Neoplasm

(preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and other disorders)

IT Structure-activity relationship

(protein (tyrosine) kinase-

inhibiting; preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and other disorders)

IT Vascular endothelial growth factor receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(type VEGFR-2, inhibitors; preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and other disorders)

IT 650577-72-3P 650579-40-1P 650579-55-8P 650579-56-9P 650579-73-0P

650579-75-2P 650579-79-6P 650579-84-3P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(drug candidate; preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and

other disorders)				
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RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of quinazolines as **ephrin** and EGFR receptor kinase modulators for treating cancer and other disorders)

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RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of quinazolines as **ephrin** and **EGFR receptor kinase** modulators for treating cancer and other disorders)

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 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)

(drug candidate; preparation of quinazolines as **ephrin** and EGFR
receptor kinase modulators for treating cancer and
 other disorders)

IT 79079-06-4, EGFR tyrosine kinase 108891-60-7, FMS
receptor tyrosine kinase 137632-09-8, ErbB2
tyrosine kinase 149433-91-0, EphA2
receptor tyrosine kinase 216974-70-8,
EphB4 receptor tyrosine kinase

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (inhibitors; preparation of quinazolines as **ephrin** and
 EGFR **receptor kinase** modulators for treating cancer
 and other disorders)

IT 65-85-0, Benzoic acid, reactions 95-76-1, 3,4-Dichloroaniline 96-32-2,
 Methyl bromoacetate 106-89-8, Epichlorohydrin, reactions 532-24-1,
 8-Methyl-8-azabicyclo[3.2.1]octan-3-one 534-07-6, 1,3-Dichloroacetone
 541-41-3, Ethyl chloridocarbonate 563-79-1, 2,3-Dimethylbut-2-ene
 874-77-1 926-64-7, (Dimethylamino)acetonitrile 2133-40-6, L-Proline
 methyl ester hydrochloride 3943-74-6, Methyl vanillate 5807-02-3,
 4-Morpholineacetonitrile 6941-54-4 13831-31-7, Acetoxyacetyl chloride
 16684-31-4 23356-96-9, (S)-(+)-Prolinol 24808-23-9 35130-97-3
 39684-80-5, 1,1-Dimethylethyl (2-bromoethyl)carbamate 40987-25-5,
 2-(Chloromethyl)-4-(phenylmethyl)morpholine 57260-71-6,
 1,1-Dimethylethyl 1-piperazinecarboxylate 76211-05-7 84358-13-4
 99380-85-5 112018-06-1 139228-12-9 146231-54-1 157904-95-5
 188869-05-8 193001-44-4 211053-49-5 214834-18-1 273207-59-3
 650577-52-9 650577-55-2 650577-63-2 650577-78-9 650577-88-1
 650577-95-0 650578-16-8 650578-27-1 650578-39-5 650578-49-7
 650578-72-6 650578-82-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of quinazolines as **ephrin** and EGFR **receptor**
kinase modulators for treating cancer and other disorders)

IT 939-56-0P, Cyanomethyl benzoate 16888-43-0P, 4-Morpholineethanethioamide
 27203-18-5P 27507-28-4P 113534-02-4P 122894-70-6P,
 2-(Chloromethyl)morpholine 137499-44-6P 164926-91-4P 194151-77-4P
 650577-30-3P 650577-31-4P 650577-49-4P 650577-50-7P 650577-51-8P
 650577-54-1P 650577-56-3P 650577-58-5P 650577-59-6P 650577-60-9P
 650577-61-0P 650577-62-1P 650577-65-4P 650577-66-5P 650577-67-6P
 650577-68-7P 650577-70-1P 650577-71-2P 650577-84-7P 650577-85-8P
 650577-86-9P 650577-94-9P 650577-97-2P 650577-98-3P 650577-99-4P
 650578-00-0P 650578-01-1P 650578-02-2P 650578-04-4P 650578-05-5P
 650578-06-6P 650578-12-4P 650578-13-5P 650578-14-6P 650578-17-9P
 650578-21-5P 650578-22-6P 650578-37-3P 650578-38-4P 650578-40-8P
 650578-42-0P 650578-43-1P 650578-44-2P 650578-45-3P 650578-46-4P
 650578-47-5P 650578-48-6P 650578-63-5P 650578-66-8P 650578-69-1P
 650578-71-5P 650578-73-7P 650578-74-8P 650578-76-0P 650578-77-1P
 650578-78-2P 650578-79-3P 650578-80-6P 650578-81-7P 650579-38-7P
 650579-39-8P 650579-47-8P 650579-49-0P 650579-51-4P 650579-53-6P
 650579-54-7P 650579-63-8P 650579-65-0P 650579-66-1P 650579-70-7P
 650579-71-8P 650579-72-9P 650579-74-1P 650579-78-5P 650579-82-1P
 650579-83-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation of quinazolines as **ephrin** and EGFR **receptor**
kinase modulators for treating cancer and other disorders)

L40 ANSWER 11 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:8305 HCAPLUS
 DN 140:160837
 ED Entered STN: 07 Jan 2004
 TI Proto-oncogene c-Cbl promotes the degradation of **EphA2**
receptor tyrosine kinase
 AU Wang, You-jie; Li, Zhong-you; Lu, Bin; Zou, Li-jun; Zhou, Yi-kai;
 Sugimura, Haruhiko
 CS Institute of Environmental Medicine, Tangji Medical College, Huazhong
 University of Science & Technology, Wuhan, 430030, Peop. Rep. China
 SO Zhongguo Shengwu Huaxue Yu Fenzi Shengwu Xuebao (2003), 19(6),
 785-790
 CODEN: ZSHXF2; ISSN: 1007-7626
 PB Zhongguo Shengwu Huaxue Yu Fenzi Shengwu Xuebao Bianweihui
 DT Journal
 LA Chinese
 CC 13-2 (Mammalian Biochemistry)
 AB The product of proto-oncogene c-Cbl has been proved as a new ubiquitin
 ligase (E3) of RING finger type for ubiquitin-proteasome pathway. Some
 studies reported that c-Cbl exerted the neg. regulation to
receptor tyrosine kinases and non-
receptor tyrosine kinases by promoting their
 degradation **Eph receptor** is the largest subfamily of
receptor tyrosine kinase, but understanding of
 the activity regulation to this subfamily is quite poor. It has been
 demonstrated in our previous study that c-Cbl could neg. regulate the
 activity of **EphA2** with an unknown mechanism. In this
 communication, it was shown that c-Cbl mediated degradation of **EphA2**
 after it was activated by the ligand binding. It was also shown that
EphA2 was rapidly degraded in response to the ligand stimulation,
 and this degradation could be **blocked** by MG132, an **inhibitor**
 of proteasome activity. Based on this result, it was proposed that c-Cbl
 might serve as E3 to mediate the ubiquitination of **EphA2** and
 promoted its degradation in proteasome.
 ST proto oncogene cCbl **EphA2 receptor tyrosine**
kinase proteasome
 IT Gene, animal
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (oncogene, c-Cbl; proto-oncogene c-Cbl promotes degradation of
EphA2 receptor tyrosine kinase in
 proteasome after it is activated by ligand binding)
 IT Human
Protein degradation
 (proto-oncogene c-Cbl promotes degradation of **EphA2**
receptor tyrosine kinase in proteasome
 after it is activated by ligand binding)
 IT 140879-24-9, Proteasome 149433-91-0, **EphA2**
receptor tyrosine kinase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (proto-oncogene c-Cbl promotes degradation of **EphA2**
receptor tyrosine kinase in proteasome
 after it is activated by ligand binding)

L40 ANSWER 12 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:7663 HCAPLUS
 DN 140:197154
 ED Entered STN: 06 Jan 2004
 TI Ligand Binding Up-Regulates **EphA2** Messenger RNA Through the
 Mitogen-Activated **Protein/Extracellular Signal-Regulated**
Kinase Pathway

AU Pratt, Rebecca L.; Kinch, Michael S.
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 West Lafayette, IN, USA
 SO Molecular Cancer Research (2003), 1(14), 1070-1076
 CODEN: MCROC5; ISSN: 1541-7786
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 AB The **Epha2 receptor tyrosine kinase**
 is overexpressed in aggressive cancer cells, where it critically
 influences many aspects of malignant character. Although high levels of
Epha2 have been documented in many different cancers, relatively
 little is known of the mechanisms that govern **Epha2** gene
 expression in normal or malignant cells. Our present studies demonstrate
 that **Epha2** influences the regulation of its own gene expression.
 Specifically, ligand-mediated phosphorylation of **Epha2** transmits
 signals to the nucleus via extracellular signal-regulated **kinase**
kinases to up-regulate de novo **Epha2** gene expression and
 synthesis. This mechanism governs **Epha2** expression in normal
 and malignant cells. In normal cells, **Epha2 protein**
 expression is balanced by ligand-mediated induction of **Epha2**
 gene expression countered by **Epha2 protein** turnover.
 These findings suggest that **Epha2** expression and ligand binding
 are intimately linked in epithelial cells. Increased understanding of
 this mechanism could have important implications for understanding the
 causes of **Epha2** overexpression and for developing new strategies
 for therapeutic intervention in the many cancers that overexpress
Epha2.
 ST ligand binding upregulate **Epha2** mRNA ERK **kinase** breast
 cancer
 IT Epithelium
 (**Epha2** expression and ligand binding are intimately linked in
 epithelial cells)
 IT Gene, animal
 mRNA
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**Epha2**; ligand binding up-regulates **Epha2** mRNA
 through the mitogen-activated **protein/extracellular**
 signal-regulated **kinase** pathway in MDA-MB-231 cell line)
 IT Ligands
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (binding; ligand binding up-regulates **Epha2** mRNA through the
 mitogen-activated **protein/extracellular** signal-regulated
kinase pathway in MDA-MB-231 cell line)
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**ephrin type-A receptor**
 2; In normal cells, **Epha2 protein**
 expression is balanced by ligand-mediated induction of **Epha2**
 gene expression countered by **Epha2 protein**
 turnover)
 IT Mammary gland, neoplasm
 (human MDA-MB-231 cell line; ligand binding up-regulates **Epha2**
 mRNA through the mitogen-activated **protein/extracellular**
 signal-regulated **kinase** pathway in MDA-MB-231 cell line)
 IT Human
 (ligand binding up-regulates **Epha2** mRNA through the
 mitogen-activated **protein/extracellular** signal-regulated
kinase pathway in MDA-MB-231 cell line)

- IT Cell nucleus
Signal transduction, biological
(ligand-mediated phosphorylation of **EphA2** transmits signals to the nucleus via extracellular signal-regulated **kinase kinases** to up-regulate de novo **EphA2** gene expression and synthesis)
- IT Phosphorylation, biological
(**protein**; ligand-mediated phosphorylation of **EphA2** transmits signals to the nucleus via extracellular signal-regulated **kinase kinases** to up-regulate de novo **EphA2** gene expression and synthesis)
- IT 142243-02-5, Extracellular signal-regulated **kinase**
149433-91-0, **EphA2** receptor tyrosine **kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ligand binding up-regulates **EphA2** mRNA through the mitogen-activated **protein**/extracellular signal-regulated **kinase** pathway in MDA-MB-231 cell line)

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L40 ANSWER 13 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:4755 HCAPLUS

DN 140:143672

ED Entered STN: 05 Jan 2004

TI High-level expression of **EphA2 receptor tyrosine kinase** in prostatic intraepithelial neoplasia

AU Zeng, Guangyuan; Hu, Zhiqiang; **Kinch, Michael S.**; Pan, Chong-Xian; Flockhart, David A.; Kao, Chinghai; Gardner, Thomas A.; Zhang, Shaobo; Li, Lang; Baldrige, Lee Ann; Koch, Michael O.; Ulbright, Thomas M.; Eble, John N.; Cheng, Liang

CS Department of Pathology and Laboratory Medicine, Indiana University School of Medicine, Indianapolis, IN, USA

SO American Journal of Pathology (2003), 163(6), 2271-2276
CODEN: AJPA44; ISSN: 0002-9440

PB American Society for Investigative Pathology

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB **EphA2** is a transmembrane **receptor tyrosine kinase** that is overexpressed in many carcinomas. Specific targeting of **EphA2** with monoclonal antibodies is sufficient to inhibit the growth, migration and invasiveness of aggressive cancers in animal models. Using immunohistochem. analyses, the authors measured the expression of **EphA2** in prostatic adenocarcinoma, high-grade prostatic intraepithelial neoplasia, and adjacent benign prostate tissue from 93 radical prostatectomy specimens. These results were related to multiple clin. and pathol. characteristics. The fraction of cells staining pos. with **EphA2** in benign prostatic epithelium (mean, 12%) was significantly lower than that in high-grade prostatic intraepithelial neoplasia (mean, 67%, $P < 0.001$) and prostatic adenocarcinoma (mean, 85%, $P < 0.001$). Moreover, the intensity of **EphA2** immunoreactivity in prostatic adenocarcinoma was significantly higher than in benign prostatic tissue ($P < 0.001$) or high-grade prostatic intraepithelial neoplasia ($P < 0.001$). Benign prostatic epithelium showed weak or no immunoreactivity for **EphA2** in all cases examined. Whereas **EphA2** immunoreactivity related to neoplastic transformation, it did not correlate with other clin. and pathol. parameters examined. These data suggest that **EphA2** levels increase as prostatic epithelial cells progress toward a more aggressive phenotype. Progressively higher levels of **EphA2** in high-grade prostatic intraepithelial neoplasia and prostatic carcinoma are consistent with recent evidence that **EphA2** functions as a powerful oncogene. Moreover, the presence of high levels of **EphA2** in these cells suggests opportunities for prostate cancer prevention and treatment.

ST **EphA2 receptor tyrosine kinase**
prostate neoplastic transformation; prostate intraepithelial neoplasia

EphA2 receptor tyrosine kinase

IT Human

(**EphA2 receptor Tyr kinase** overexpression
in prostatic intraepithelial neoplasia)

IT Prostate gland, neoplasm

(adenocarcinoma; **EphA2 receptor Tyr kinase**
overexpression in prostatic neoplastic transformation)

IT Prostate gland, disease

(benign hyperplasia; **EphA2 receptor Tyr kinase overexpression in prostatic neoplastic transformation**)

IT Hyperplasia
(benign prostatic; **EphA2 receptor Tyr kinase overexpression in prostatic neoplastic transformation**)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ecf protein; EphA2 receptor Tyr kinase overexpression in prostatic intraepithelial neoplasia**)

IT Prostate gland, neoplasm
(metastasis; **EphA2 receptor Tyr kinase overexpression in prostatic neoplastic transformation**)

IT Carcinoma
(prostatic adenocarcinoma; **EphA2 receptor Tyr kinase overexpression in prostatic neoplastic transformation**)

IT 149433-91-0, **EphA2 receptor tyrosine kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphA2 receptor Tyr kinase overexpression in prostatic neoplastic transformation**)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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L40 ANSWER 14 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:982383 HCAPLUS

DN 140:75821

ED Entered STN: 17 Dec 2003

TI **EphA2** as Target of Anticancer Immunotherapy: Identification of
HLA-A*0201-Restricted Epitopes

AU Alves, Pedro M. S.; Faure, Olivier; Graff-Dubois, Stephanie; Gross,
David-Alexandre; Cornet, Sebastien; Chouaib, Salem; Miconnet, Isabelle;

Lemonnier, Francois A.; Kosmatopoulos, Kostas
 CS INSERM487, Institut Gustave Roussy, Villejuif, Fr.
 SO Cancer Research (2003), 63(23), 8476-8480
 CODEN: CNREA8; ISSN: 0008-5472
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 15-8 (Immunochimistry)
 AB **Epha2 (Eck)** is a **tyrosine kinase receptor** that is overexpressed in several human cancers such as breast, colon, lung, prostate, gastric carcinoma, and metastatic melanoma but not in nonmalignant counterparts. To validate **Epha2** as a tumor antigen recognized by CD8+ T lymphocytes, we used reverse immunol. approach to identify HLA-A*0201-restricted epitopes. Peptides bearing the HLA-A*0201-specific anchor motifs were analyzed for their capacity to bind and stabilize the HLA-A*0201 mols. Two peptides, EphA258 and EphA2550, with a high affinity for HLA-A*0201 were selected. Both peptides were immunogenic in the HLA-A*0201-transgenic HHD mice. Interestingly, peptide-specific murine CTLs cell lines responded to COS-7 cells coexpressing HLA-A*0201 and **Epha2** and to **Epha2**-pos. human tumor cells of various origin (renal cell, lung, and colon carcinoma and sarcoma). This demonstrates that EphA258 and EphA2550 are naturally processed from endogenous **Epha2**. In addition, EphA258 and EphA2550 stimulated specific CD8+ T cells from healthy donor peripheral blood mononuclear cells. These T cells recognized **Epha2**-pos. human tumor cells in an HLA-A*0201-restricted manner. Interestingly, **Epha2**-specific CD8+ T cells were detected in the peripheral blood mononuclear cells of prostate cancer patients. These results show for the first time that **Epha2** is a tumor rejection antigen and lead us to propose EphA258 and EphA2550 peptides for a broad-spectrum-tumor immunotherapy.

ST **Epha2** peptide anticancer immunotherapy
 IT CD8-positive T cell
 Human
 MHC restriction
 (Epha2 as target of anticancer immunotherapy and identification of HLA-A*0201-restricted epitopes)

IT Immunotherapy
 (Epha2 as target of anticancer immunotherapy and identification of HLA-A*0201-restricted epitopes for)

IT Prostate gland, neoplasm
 (Epha2 as target of anticancer immunotherapy and identification of HLA-A*0201-restricted epitopes in)

IT Antigens
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (tumor-rejection, **Epha2**; **Epha2** as target of anticancer immunotherapy and identification of HLA-A*0201-restricted epitopes)

IT 615266-60-9 615266-61-0
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (Epha2 as target of anticancer immunotherapy and identification of HLA-A*0201-restricted epitopes)

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L40 ANSWER 15 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:950865 HCAPLUS

DN 140:13032

ED Entered STN: 07 Dec 2003

TI Low molecular weight **protein tyrosine phosphatase**
(LMW-PTP) as a diagnostic and therapeutic target

IN **Kinch, Michael S.**

PA Purdue Research Foundation, USA

SO PCT Int. Appl., 81 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-00

ICS A61K039-00; A61K039-395; G01N033-53

CC 1-6 (Pharmacology)

Section cross-reference(s): 9, 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003099313	A1	20031204	WO 2003-US16269	20030522 <--
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	CA 2486615	AA	20031204	CA 2003-2486615	20030522 <--
	EP 1505999	A1	20050216	EP 2003-734142	20030522 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			

PRAI US 2002-382988P P 20020523 <--
 WO 2003-US16269 W 20030522

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003099313	ICM	A61K038-00
	ICS	A61K039-00; A61K039-395; G01N033-53
WO 2003099313	ECLA	A61K038/17A2; C12N009/16; G01N033/50D4; G01N033/574 <--
AB	Low mol. weight protein tyrosine phosphatase (LMW-PTP) is identified as a novel diagnostic and therapeutic target in cancer diagnosis, prognosis and treatment. The invention provides diagnostic and treatment methods useful in connection with cancers expressing LMW-PTP and, optionally, EphA2 receptor . Also provided is a screening method that utilizes changes in the amount and/or activity of LMW-PTP to identify candidate cancer therapeutic agents that effectively target the oncoprotein EphA2 .	
ST	protein tyrosine phosphatase cancer diagnosis therapeutic target	
IT	Tyrosine kinase receptors RL: BSU (Biological study, unclassified); BIOL (Biological study) (ephrin type-A receptor 2; low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	Adhesion, biological (focal, LMW-PTP overexpression increase of; low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	Antitumor agents Cytotoxic agents Diagnosis Drug interactions Human Neoplasm (low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	Carcinoma (metastasis; low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	Phosphorylation, biological (of EphA2 receptor tyrosines ; low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	Organelle (stress fiber, LMW-PTP overexpression increase of; low mol. weight protein tyrosine phosphatase (LMW-PTP) as a diagnostic and therapeutic target for cancer and inhibition of EphA2 receptor in relation to conjugation with cytotoxic agents)	
IT	149433-91-0, EphA2 receptor tyrosine kinase	

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(low mol. weight **protein tyrosine phosphatase**
(LMW-PTP) as a diagnostic and therapeutic target for cancer and
inhibition of **EphA2 receptor** in relation to
conjugation with cytotoxic agents)

IT 352548-19-7, Low molecular weight **protein tyrosine phosphatase**

RL: BSU (Biological study, unclassified); DGN (Diagnostic use); BIOL
(Biological study); USES (Uses)
(low mol. weight **protein tyrosine phosphatase**
(LMW-PTP) as a diagnostic and therapeutic target for cancer and
inhibition of **EphA2 receptor** in relation to
conjugation with cytotoxic agents)

IT 630435-42-6 630435-43-7 630435-44-8

RL: PRP (Properties)
(unclaimed nucleotide sequence; low mol. weight **protein tyrosine phosphatase** (LMW-PTP) as a diagnostic and therapeutic target)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 16 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:933787 HCAPLUS

DN 140:268478

ED Entered STN: 01 Dec 2003

TI **EphA2** Up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated **kinase** and p53-independence

AU Li, Zhongyou; Tanaka, Masamitsu; Kataoka, Hideki; Nakamura, Ritsuko; Sanjar, Ravshanov; Shinmura, Kazuya; Sugimura, Haruhiko

CS The First Department of Pathology, Hamamatsu University School of Medicine, Hamamatsu, 431-3192, Japan

SO Journal of Cancer Research and Clinical Oncology (2003), 129(12), 703-708

CODEN: JCROD7; ISSN: 0171-5216

PB Springer-Verlag

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB Purpose: The **EphA2 receptor protein**

tyrosine kinase gene has been shown to be over-expressed or functionally altered in a number of human tumors, including colon cancer, but little is known about the regulation of this new oncoprotein. In order to explore the mechanism of **EphA2** up-regulation in cancer cells, we examined the change of expression of **EphA2** gene induced by deoxycholic acid (DCA) and elucidated its possible pathways in human colon cancer cells. Methods: Western blot and RT-PCR were used to assess the **protein** expression and mRNA in several colon cancer cell lines, which harbor various p53 status. The **inhibition** study to interfere the MAPK pathway was performed by using various chems. and by transfecting dominant neg. mutant plasmids. Results: Up-regulation of **EphA2** induced by DCA was observed in a dose- and time-dependent fashion both in mRNA and **protein** levels. This regulation is constant regardless of p53 status including wild, mutant or knocked out in the colon cell lines used. This induction was in part **blocked**

by either erk1/2 inhibitors or dominant neg. mutants erk1/2 plasmids. Conclusions: These results suggest that DCA induced up-regulation of **Epha2** in colon cancer cells is due to activation of erk1/2 cascade, and is p53-independent. Taken together with the roles of **Epha2** and DCA in tumorigenesis, which have been independently reported, our observation will provide a new mechanistic basis of DCA commitment in carcinogenesis.

ST **Epha2** deoxycholate ERK kinase colon carcinoma

IT Human

Signal transduction, biological
Transformation, neoplastic

(**Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT p53 (protein)

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(**Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT Transcriptional regulation

(activation; **Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT Intestine, neoplasm

(colon, carcinoma; **Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT Carcinoma

(colon; **Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT Tyrosine kinase receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(**ephrin type-A receptor**

2; **Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT 83-44-3, Deoxycholic acid

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(**Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

IT 137632-07-6, Erk1 kinase 137632-08-7, Erk2 kinase

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(**Epha2** up-regulation induced by deoxycholic acid in human colon carcinoma cells, an involvement of extracellular signal-regulated kinase and p53-independence)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 17 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:917659 HCAPLUS

DN 140:57464

ED Entered STN: 24 Nov 2003

TI Differential **Epha2** Epitope Display on Normal versus Malignant Cells

AU Coffman, Karen T.; Hu, Min; Carles-Kinch, Kelly; Tice, David; Donacki, Nanci; Munyon, Karyn; Kifle, Giza; Woods, Robert; **Langermann, Solomon; Kiener, Peter A.; Kinch, Michael S.**

CS **MedImmune, Inc., Gaithersburg, MD, USA**

SO Cancer Research (2003), 63(22), 7907-7912

CODEN: CNREA8; ISSN: 0008-5472

PB American Association for Cancer Research

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 15

AB The **Epha2** receptor tyrosine kinase

is overexpressed in many different types of human cancers where it functions as a powerful oncoprotein. Dramatic changes in the subcellular localization and function of **Epha2** have also been linked with cancer, and in particular, unstable cancer cell-cell contacts prevent **Epha2** from stably binding its ligand on the surface of adjoining cells. This change is important in light of evidence that ligand binding causes **Epha2** to transmit signals that neg. regulate tumor cell growth and invasiveness and also induce **Epha2** degradation. On the basis of these properties, the authors have begun to target **Epha2** on tumor cells using agonistic antibodies, which mimic the consequences of ligand binding. In our present study, the authors show that a subset of agonistic **Epha2** antibodies selectively bind epitopes on malignant cells, which are not available on nontransformed epithelial cells. The authors also show that such epitopes arise from differential cell-cell adhesions and that the stable intercellular junctions of nontransformed epithelial cells occlude the binding site for ligand, as well as this subset of **Epha2** antibodies. Finally, the authors demonstrate that antibody targeting of **Epha2** decreases tumor cell growth as measured using xenograft tumor models and found that the mechanism of antibody action relates to **Epha2** protein degradation in vivo. Taken together, these results suggest new opportunities for therapeutic targeting of the large number of different cancers that express **Epha2** in a manner that could minimize potential toxicities to normal cells.

ST **Epha2** receptor epitope cancer

IT Antitumor agents

Epitopes

Human

Neoplasm
 (differential **EphA2** epitope display on normal vs. malignant cells)
 IT Adhesion, biological
 (differential **EphA2** epitope display on normal vs. malignant cells in relation to)
 IT Cell junction
 (differential **EphA2** epitope display on normal vs. malignant cells in relation to stable intercellular junctions of normal cells)
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**ephrin type-A receptor**
 2; differential **EphA2** epitope display on normal vs. malignant cells)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L40 ANSWER 18 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:912959 HCAPLUS

DN 139:394888

ED Entered STN: 21 Nov 2003

TI Anti-**EphA2** protein monoclonal antibodies for
 diagnosis, prognosis and therapy of cancer and metastasis

IN Kinch, Michael S.; Carles-Kinch, Kelly; Kiener, Peter;
 Langermann, Solomon

PA Medimmune, Inc., USA

SO PCT Int. Appl., 175 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K

CC 15-3 (Immunochemistry)

Section cross-reference(s): 1, 8, 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003094859	A2	20031120	WO 2003-US15044	20030512 <--
	WO 2003094859	A3	20050203		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 CA 2485373 AA 20031120 CA 2003-2485373 20030512 <--
 US 2004028685 A1 20040212 US 2003-436782 20030512 <--
 EP 1519956 A2 20050406 EP 2003-750125 20030512 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 PRAI US 2002-379322P P 20020510 <--
 US 2002-418213P P 20021014 <--
 US 2003-460507P P 20030403 <--
 WO 2003-US15044 W 20030512

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003094859	ICM	A61K
WO 2003094859	ECLA	C07K016/28H
US 2004028685	NCL	424/155.100
	ECLA	C07K016/28H

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of cancer, particularly, metastatic cancer. In one embodiment, the methods of the invention comprise the administration of an effective amount of an antibody that binds to **EphA2** and agonizes **EphA2**, thereby increasing **EphA2** phosphorylation and decreasing **EphA2** levels. In other embodiments, the methods of the invention comprise the administration of an effective amount of an antibody that binds to **EphA2** and inhibits cancer cell colony formation in soft agar, inhibits tubular network formation in three-dimensional basement membrane or extracellular matrix preparation, preferentially binds to an **EphA2** epitope that is exposed on cancer cells but not non-cancer cells, and/or has a low Koff, thereby, inhibiting tumor cell growth and/or metastasis. The invention also provides pharmaceutical compns. comprising one or more **EphA2** antibodies of the invention either alone or in combination with one or more other agents useful for cancer therapy.

ST **EphA2** protein epitope monoclonal antibody cancer metastasis therapy

IT Inflammation
 (Crohn's disease; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Intestine, disease
 (Crohn's; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Hybridoma
 (Eph099B-102.147; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Hybridoma
 (Eph099B-208.261; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Hybridoma
 (Eph099B-210.248; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

metastasis)

IT Hybridoma
(Eph099B-233.152; anti-**EphA2 protein** monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Animal cell
Animal cell line
Animal tissue
Antitumor agents
Apoptosis
Asthma
Bladder, neoplasm
Blood cell
Blood serum
Carcinoma
Carcinoma
Chemotherapy
Epitopes
Extracellular matrix
Genetic vectors
Human
Imaging
Immunotherapy
Lung, neoplasm
Mammary gland, neoplasm
Melanoma
Molecular cloning
Necrosis
Pancreas, neoplasm
Phosphorylation, biological
Prognosis
Prostate gland, neoplasm
 Protein sequences
Psoriasis
Radiotherapy
Skin, neoplasm
Sputum
Surgery
Urine
cDNA sequences
 (anti-**EphA2 protein** monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Antibodies and Immunoglobulins
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (anti-**EphA2 protein** monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Fibronectins
Ligands
RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (anti-**EphA2 protein** monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Antisense oligonucleotides
Nucleic acids
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (anti-**EphA2 protein** monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)

IT Basement membrane

- (artificial; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Needles (tools)
 - (aspirates; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Health products
 - (biologicals; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Diagnosis
 - (cancer; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Drug delivery systems
 - (carriers; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Biology
 - (cell, host; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Lung, disease
 - (chronic obstructive; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Intestine, neoplasm
 - (colon; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Physical properties
 - (consts., Koff; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT **Tyrosine kinase receptors**
 - RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 - (**ephrin type-A receptor**
 - 2; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Cytometry
 - (flow; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 - RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (fragments; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 - RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 - (fusion products; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 - RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (heavy chain; anti-**EphA2** protein monoclonal

- antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (humanized; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Diagnosis
 (immunodiagnosis; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Immunoassay
 (immunofluorescence microscopy; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Intestine, disease
 (inflammatory; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (light chain; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Neoplasm
 (metastasis; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Antibodies and Immunoglobulins
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (monoclonal; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Disease, animal
 (proliferative, hyper-; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Kidney, neoplasm
 (renal cell carcinoma; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Carcinoma
 (renal cell; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Artery, disease
 (restenosis, smooth muscle; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Muscle, disease
 (smooth, restenosis; anti-**EphA2** protein monoclonal antibodies for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Hormones, animal, biological studies
 RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL

- (Biological study); USES (Uses)
(therapy; anti-**EphA2** protein monoclonal antibodies
for diagnosis, prognosis and therapy of cancer and metastasis)
- IT Imaging
(tumor; anti-**EphA2** protein monoclonal antibodies
for diagnosis, prognosis and therapy of cancer and metastasis)
- IT 625867-94-9P 625867-95-0P 625867-98-3P 625867-99-4P 625868-02-2P
625868-03-3P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; anti-**EphA2** protein monoclonal
antibodies for diagnosis, prognosis and therapy of cancer and
metastasis)
- IT 149433-91-0, **EphA2** receptor tyrosine
kinase
RL: ARU (Analytical role, unclassified); BSU (Biological study,
unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic
use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(anti-**EphA2** protein monoclonal antibodies for
diagnosis, prognosis and therapy of cancer and metastasis)
- IT 119978-18-6, Matrigel
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST
(Analytical study); USES (Uses)
(anti-**EphA2** protein monoclonal antibodies for
diagnosis, prognosis and therapy of cancer and metastasis)
- IT 157597-32-5 176714-45-7 384331-85-5 500757-49-3 625812-75-1
625812-76-2 625812-77-3 625812-78-4 625812-79-5 625812-80-8
625812-81-9 625812-82-0 625812-83-1 625812-84-2 625812-85-3
625812-86-4 625812-87-5 625812-88-6 625862-83-1
RL: BSU (Biological study, unclassified); DGN (Diagnostic use); PRP
(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-**EphA2** protein monoclonal antibodies for
diagnosis, prognosis and therapy of cancer and metastasis)
- IT 625867-96-1P 625867-97-2P 625868-00-0P 625868-01-1P 625868-04-4P
625868-05-5P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; anti-**EphA2** protein monoclonal
antibodies for diagnosis, prognosis and therapy of cancer and
metastasis)
- IT 9002-18-0, Agar
RL: ARU (Analytical role, unclassified); DEV (Device component use); DGN
(Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES
(Uses)
(soft; anti-**EphA2** protein monoclonal antibodies for
diagnosis, prognosis and therapy of cancer and metastasis)
- IT 625868-09-9 625868-10-2 625868-11-3 625868-12-4 625868-13-5
625868-14-6 625868-15-7 625868-16-8 625868-17-9 625868-18-0
625868-19-1 625868-20-4 625868-21-5 625868-22-6 625868-23-7
625868-24-8 625868-25-9 625868-26-0 625868-27-1
RL: PRP (Properties)
(unclaimed nucleotide sequence; anti-**EphA2** protein
monoclonal antibodies for diagnosis, prognosis and therapy of cancer
and metastasis)

L40 ANSWER 19 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:837593 HCAPLUS
DN 139:322275

ED Entered STN: 26 Oct 2003
 TI Peptide T epitopes of the **EphA2** antigen for antitumor immunotherapy
 IN Kosmatopoulos, Kostas; Alves, Pedro
 PA Institut National de la Sante et de la Recherche Medicale INSERM, Fr.;
 Institut Gustave Roussy
 SO Fr. Demande, 22 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 IC ICM C07K007-06
 ICS C12N015-12; A61K039-00; A61K048-00; A61K031-7105; A61K031-711;
 A61P035-00; A61P037-04
 CC 15-2 (Immunochemistry)
 Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2838742	A1	20031024	FR 2002-5048	20020423 <--
	FR 2838742	B1	20040709		
	CA 2482930	AA	20031106	CA 2003-2482930	20030423 <--
	WO 2003091383	A2	20031106	WO 2003-FR1280	20030423 <--
	WO 2003091383	A3	20040401		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1497417	A2	20050119	EP 2003-740654	20030423 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
PRAI	FR 2002-5048	A	20020423 <--		
	WO 2003-FR1280	W	20030423		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2838742	ICM	C07K007-06
	ICS	C12N015-12; A61K039-00; A61K048-00; A61K031-7105; A61K031-711; A61P035-00; A61P037-04
FR 2838742	ECLA	C07K014/715 <--
WO 2003091383	ECLA	C07K014/715 <--

AB The invention discloses peptides constituting **EphA2** antigen T epitopes, presented by MHC I. The peptides are useful in particular for antitumor immunotherapy.

ST antitumor immunotherapy peptide T epitope **EphA2** antigen

IT Lung, neoplasm
 (1355 cell; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)

IT Histocompatibility antigens
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (HLA-A, HLA-A*0201; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)

IT Prostate gland, neoplasm
 (LNCaP and DU145 cells; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)

- IT Histocompatibility antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MHC (major histocompatibility complex), class I; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Sarcoma
(SAOS cell; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Intestine, neoplasm
(colon, Caco-2 cell; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT T cell (lymphocyte)
(cytotoxic; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT **Tyrosine kinase receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin type-A receptor**
2; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Drug delivery systems
Epitopes
Human
Immunotherapy
(peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Fusion **proteins** (chimeric **proteins**)
Peptides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Polynucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peptide-encoding; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Kidney, neoplasm
(renal cell carcinoma; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Carcinoma
(renal cell; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Vaccines
(tumor; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT Antitumor agents
(vaccines; peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)
- IT 615266-60-9 615266-61-0
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peptide T epitopes of **EphA2** antigen for antitumor immunotherapy)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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L40 ANSWER 20 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:613807 HCAPLUS
DN 139:275676

ED Entered STN: 11 Aug 2003

TI Disease Stage Variation in CD4+ and CD8+ T-Cell Reactivity to the
Receptor Tyrosine Kinase EphA2 in
 Patients with Renal Cell Carcinoma

AU Tatsumi, Tomohide; Herrem, Christopher J.; Olson, Walter C.; Finke, James
 H.; Bukowski, Ronald M.; Kinch, Michael S.; Ranieri, Elena;
 Storkus, Walter J.

CS Departments of Surgery and Immunology, University of Pittsburgh School of
 Medicine, Pittsburgh, PA, 15213, USA

SO Cancer Research (2003), 63(15), 4481-4489
 CODEN: CNREA8; ISSN: 0008-5472

PB American Association for Cancer Research

DT Journal

LA English

CC 15-10 (Immunochemistry)
 Section cross-reference(s): 14

AB The authors have evaluated CD8+ and CD4+ T-cell responses against a new
 tumor-associated antigen, the **receptor tyrosine
 kinase EphA2**, which is broadly expressed in diverse
 cancer histologies and is frequently overexpressed in advanced
 stage/metastatic disease. They report herein that **EphA2** is
 overexpressed in renal cell carcinoma (RCC) cell lines and clin. specimens
 of RCC, and find that the highest levels of **EphA2** are
 consistently found in the most advanced stages of the disease. The
 authors identified and synthesized 5 putative HLA class I-binding and 3
 class II-binding peptides derived from **EphA2** that might serve as
 targets for immune reactivity. Each peptide induced specific,
 tumor-reactive CD8+ or CD4+T-cell responses as measured using IFN- γ
 enzyme-linked immunospot assays. The **EphA2** peptides elicited
 relatively weak responses from CD8+ T cells derived from normal healthy
 volunteers or from RCC patients with active disease. In marked contrast,
 immune reactivity to **EphA2**-derived epitopes was greatly enhanced
 in CD8+ T cells that had been isolated from patients who were rendered
 disease-free, after surgery. Furthermore, enzyme-linked immunospot
 analyses demonstrated prominent **EphA2**-restricted T-helper 1-type
 CD4+ T cell activity in patients with early stage disease, whereas
 T-helper 2-type and T regulatory-type responses predominated in patients
 with more advanced forms of RCC. Thus, the immune system of cancer
 patients actively monitors **EphA2**-derived epitopes, and the
 magnitude and character of T-cell responses to **EphA2** epitopes
 may convey much-needed predictive information about disease stage and
 outcome.

ST T cell **receptor tyrosine kinase
 EphA2** kidney carcinoma prognosis

IT CD4-positive T cell
 CD8-positive T cell
 Epitopes
 Human
 (disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor
 antigen **receptor tyrosine kinase
 EphA2** in patients with renal cell carcinoma)

IT Tumor antigens
 Tumor antigens
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor
 antigen **receptor tyrosine kinase
 EphA2** in patients with renal cell carcinoma)

IT Prognosis
 (disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor
 antigen **receptor tyrosine kinase**

EphA2 in patients with renal cell carcinoma in relation to)

IT Kidney, neoplasm
(renal cell carcinoma; disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor antigen **receptor tyrosine kinase EphA2** in patients with renal cell carcinoma)

IT Carcinoma
(renal cell; disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor antigen **receptor tyrosine kinase EphA2** in patients with renal cell carcinoma)

IT 149433-91-0, **EphA2 receptor tyrosine kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor antigen **receptor tyrosine kinase EphA2** in patients with renal cell carcinoma)

IT 604797-13-9 604797-14-0 604797-15-1 604797-16-2 604797-17-3
604797-18-4 604797-19-5 604797-20-8
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(disease stage variation in CD4+ and CD8+ T-cell reactivity to tumor antigen **receptor tyrosine kinase EphA2** in patients with renal cell carcinoma)

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 21 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:463217 HCAPLUS

DN 139:177781

ED Entered STN: 17 Jun 2003

TI **Epha2** Overexpression Decreases Estrogen Dependence and Tamoxifen Sensitivity

AU Lu, Ming; Miller, Kathy D.; Gokmen-Polar, Yesim; Jeng, Meei-Huey; **Kinch, Michael S.**

CS Department of Basic Medical Sciences, Purdue University Cancer Center, West Lafayette, IN, 47907, USA

SO Cancer Research (2003), 63(12), 3425-3429

CODEN: CNREA8; ISSN: 0008-5472

PB American Association for Cancer Research

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 2

AB The **Epha2** receptor tyrosine kinase

is found at low levels on non-transformed adult breast epithelial cells but is frequently overexpressed on aggressive breast cancer cells. Recent studies have documented an inverse relationship between **Epha2** and estrogen receptor expression in breast cancer cell lines.

In our present study, we demonstrate that overexpression of **Epha2** decreases estrogen dependence as defined using both in vitro and in vivo criteria. The **Epha2**-transfected cells demonstrate increased growth in vitro and form larger and more aggressive tumors in vivo.

Epha2 overexpression also decreases the ability of tamoxifen to inhibit breast cancer cell growth and tumorigenesis. These effects of **Epha2** overexpression can be overcome by antibody-based targeting

of **Epha2**. In particular, certain **Epha2** antibodies can resensitize **Epha2**-overexpressing breast tumor cells to tamoxifen. These results have important implications for understanding the mol. basis underlying estrogen dependence and provide further evidence that **Epha2** may provide a much-needed therapeutic target for breast cancer.

ST overexpression **Epha2** decrease estrogen dependence tamoxifen sensitivity breast cancer

IT Transformation, neoplastic

(**Epha2** overexpression also decreases the ability of tamoxifen

- to inhibit breast cancer cell growth and tumorigenesis)
- IT Human
(**EphA2** overexpression decreases estrogen dependence and tamoxifen sensitivity in human MCF-7 cell line)
- IT Estrogens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphA2** overexpression decreases estrogen dependence and tamoxifen sensitivity in human MCF-7 cell line)
- IT Estrogen receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Recent studies have documented an inverse relationship between **EphA2** and estrogen receptor expression in breast cancer cell lines)
- IT Mammary gland
(epithelium; **EphA2** receptor tyrosine kinase is found at low levels on non-transformed adult breast epithelial cells but is frequently overexpressed on aggressive breast cancer cells)
- IT Mammary gland, neoplasm
(human breast carcinoma MCF-7 cell line; **EphA2** overexpression decreases estrogen dependence and tamoxifen sensitivity in human MCF-7 cell line)
- IT Cell proliferation
(inhibition; **EphA2** overexpression also decreases the ability of tamoxifen to inhibit breast cancer cell growth and tumorigenesis)
- IT Epithelium
(mammary; **EphA2** receptor tyrosine kinase is found at low levels on non-transformed adult breast epithelial cells but is frequently overexpressed on aggressive breast cancer cells)
- IT Drug targets
(these results provide further evidence that **EphA2** may provide a much-needed therapeutic target for breast cancer)
- IT 10540-29-1, Tamoxifen 149433-91-0, **EphA2** receptor tyrosine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphA2** overexpression decreases estrogen dependence and tamoxifen sensitivity in human MCF-7 cell line)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:303553 HCAPLUS
 DN 139:50696
 ED Entered STN: 21 Apr 2003
 TI Differential regulation of **EphA2** in normal and malignant cells
 AU Walker-Daniels, Jennifer; Hess, Angela R.; Hendrix, Mary J. C.;
 Kinch, Michael S.
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 West Lafayette, IN, USA
 SO American Journal of Pathology (2003), 162(4), 1037-1042
 CODEN: AJPA44; ISSN: 0002-9440
 PB American Society for Investigative Pathology
 DT Journal; General Review
 LA English
 CC 14-0 (Mammalian Pathological Biochemistry)
 AB A review on the biochem. and cellular consequences of **EphA2**
 stimulation, especially in malignant cells. The mechanisms that may explain
 the overexpression and functional alterations of **EphA2** in cancer are
 discussed. A hypothetical model representing a potential signaling
 pathway initiated by **EphA2** and critical for vasculogenic mimicry is
 also presented.
 ST review **EphA2** receptor tyrosine
 kinase signaling cancer
 IT Neoplasm
 Signal transduction, biological
 (differential regulation of **EphA2** in cancer)
 IT 149433-91-0, **EphA2** receptor tyrosine
 kinase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (differential regulation of **EphA2** in cancer)

RE.CNT 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 23 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:141172 HCAPLUS
DN 139:82846
ED Entered STN: 25 Feb 2003
TI Overexpression and functional alterations of the **EphA2**
tyrosine kinase in cancer
AU **Kinch, Michael S.**; Carles-Kinch, Kelly
CS **MedImmune, Inc., Gaithersburg, MD, USA**
SO **Clinical & Experimental Metastasis (2003), 20(1), 59-68**
CODEN: CEXMD2; ISSN: 0262-0898

PB Kluwer Academic Publishers
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 AB Cancer is a disease of aberrant signal transduction. The expression and function of intracellular signaling pathways are frequently subverted as cells progress towards a metastatic phenotype. In particular, **tyrosine kinases** initiate powerful signals that govern many different aspects of cell behavior. In Recent studies have demonstrated that the **EphA2 receptor tyrosine kinase** is frequently overexpressed and functionally altered in aggressive tumor cells, and that these changes promote metastatic character. Herein, we provide an overview of our current understanding of **EphA2**, with emphasis upon the differential regulation of **EphA2** expression and function. We also show that differential **EphA2** expression and function may provide a unique opportunity for selective therapeutic targeting of **EphA2** in metastatic disease.

ST **EphA2 receptor tyrosine kinase**
 intracellular signaling cancer

IT Neoplasm
 Second messenger system
 Signal transduction, biological
 (overexpression and functional alterations of **EphA2 tyrosine kinase** in cancer)

IT 149433-91-0, **EphA2 receptor tyrosine kinase**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (overexpression and functional alterations of **EphA2 tyrosine kinase** in cancer)

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L40 ANSWER 24 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:106711 HCAPLUS
 DN 138:335310
 ED Entered STN: 11 Feb 2003
 TI Predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival
 AU Kinch, Michael S.; Moore, Mary-Beth; Harpole, David H., Jr.
 CS MedImmune, Inc., Gaithersburg, MD, 20878, USA
 SO Clinical Cancer Research (2003), 9(2), 613-618
 CODEN: CCREF4; ISSN: 1078-0432
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 AB PURPOSE: Underestimation of disease severity is a major problem confronting the successful clin. management of non-small cell lung cancer. Recent advances in mol. biol. substaging may provide an opportunity to identify those patients with the most aggressive forms of the disease, but there is a continuing need for accurate markers of disease relapse and survival. Exptl. Design: In the authors' present study, immunohistochem. analyses of a retrospective database of pathol. specimens were used to demonstrate that the **EphA2 receptor kinase** is frequently overexpressed in NSCLC. RESULTS: Initial presentation with high levels of **EphA2** predicts subsequent survival, overall relapse, and site of relapse. Specifically, high levels of **EphA2** in the primary tumor predict brain metastases, whereas low levels of **EphA2** relate to disease-free survival or contralateral lung metastasis. CONCLUSIONS: These data suggest that **EphA2** may provide a mol. marker to identify and predict patients who have isolated brain metastases. Moreover, the high levels of **EphA2** in lung cancer may provide an opportunity for therapeutic targeting.

ST lung cancer **EphA2 receptor tyrosine kinase**
 IT Brain, neoplasm
 Lung, neoplasm
 (metastasis; predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival)
 IT Lung, neoplasm
 (non-small-cell carcinoma; predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival)
 IT Human
 (predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival)
 IT Carcinoma
 (pulmonary non-small-cell; predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival)
 IT 149433-91-0, **EphA2 receptor tyrosine kinase**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (predictive value of the **EphA2 receptor tyrosine kinase** in lung cancer recurrence and survival)

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L40 ANSWER 25 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:61644 HCAPLUS

DN 138:252693

ED Entered STN: 27 Jan 2003

TI **EphA2** overexpression correlates with poor prognosis in
esophageal squamous cell carcinoma

AU Miyazaki, Tatsuya; Kato, Hiroyuki; Fukuchi, Minoru; Nakajima, Masanobu;
Kuwano, Hiroyuki

CS Department of Surgery I, Gunma University Faculty of Medicine, Gunma,
371-8511, Japan

SO International Journal of Cancer (2003), 103(5), 657-663
CODEN: IJCNAW; ISSN: 0020-7136

PB Wiley-Liss, Inc.

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB **EphA2** is a member of the **Eph** family of
receptor tyrosine kinases, which interact with
cell-bound ligands known as **ephrins**. **EphA2** expression
was investigated by immunohistochem. with an anti-**EphA2**
monoclonal antibody in 80 patients with esophageal squamous cell carcinoma
(ESCC) who had undergone surgery. **EphA2** overexpression was pos.
in 40 of the 80 patients (50%). A significant correlation was observed
between **EphA2** expression and regional lymph node metastasis
($p=0.023$), number of lymph node metastases ($p=0.011$) and poor degree of tumor
differentiation ($p=0.004$). The survival rates of **EphA2**-pos.
patients were poorer than those of **EphA2**-neg. patients
($p=0.014$). The 5-yr survival rate of patients without **EphA2**

overexpression was 68%, whereas that of patients with **Epha2** overexpression was 29%. **Epha2** expression was also investigated in 7 ESCC cell lines (TE-1, -2, -8, -13, -15, TT and TTn) and 1 immortalized human esophageal keratinocyte cell line (CHEK-1). Western blotting revealed different levels of **Epha2** expression in the 8 cell lines. **Epha2** was expressed at a high level in the ESCC cell lines compared to CHEK-1. **Epha2** phosphorylation was demonstrated in all cell lines. Northern blot anal. showed that **Epha2** mRNA expression in TE-1 was greater than that in the other ESCC cell lines. The observation of small gaps on Western blot anal. of the ESCC cell lines suggests that there may be a mechanism for **Epha2** regulation at the point of translation. In conclusion, **Epha2** overexpression appears to be related to poor degree of tumor differentiation and lymph node metastasis in ESCC. Consequently, patients with **Epha2** overexpression have a poorer prognosis than those without. **Epha2** is a potential target to prevent ESCC cells spreading into the lymphatic drainage.

ST **Epha2** esophagus carcinoma prognosis

IT Human

Prognosis

(**Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

IT **Proteins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(**ephrin**, A2; **Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

IT Carcinoma

(esophageal squamous cell; **Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

IT Phosphorylation, biological

(**receptor**, of **Epha2**; **Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

IT Esophagus, neoplasm

(squamous cell carcinoma; **Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

IT 149433-91-0, **Epha2** receptor tyrosine kinase

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(**Epha2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma)

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- L40 ANSWER 26 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:968922 HCAPLUS
 DN 138:167753
 ED Entered STN: 23 Dec 2002
 TI c-Cbl-dependent **EphA2** protein degradation is induced
 by ligand binding
 AU Walker-Daniels, Jennifer; Riese, David J., II; **Kinch, Michael S.**
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 West Lafayette, IN, USA
 SO Molecular Cancer Research (2002), 1(1), 79-87
 CODEN: MCROC5; ISSN: 1541-7786
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 Section cross-reference(s): 2
 AB The **EphA2** receptor protein tyrosine
 kinase is overexpressed and functionally altered in a large number of
 human carcinomas. Despite its elevated levels in cancer, the
EphA2 on the surface of malignant cells demonstrates lower levels
 of ligand binding and tyrosine phosphorylation than the
EphA2 on non-transformed epithelial cells. In our present study,
 we demonstrate that ligand-mediated stimulation causes **EphA2** to
 be internalized and degraded. The mechanism of this response involves
 ligand-mediated autophosphorylation of **EphA2**, which promotes an
 association between **EphA2** and the c-Cbl adaptor protein.
 We also show that c-Cbl promotes stimulation-dependent **EphA2**
 degradation. These findings are important for understanding the causes of
EphA2 overexpression in malignant cells and provide a foundation
 for investigating **EphA2** as a potential target for therapeutic
 intervention.
 ST **EphA2** receptor tyrosine kinase
 degrdn Cbl protein breast carcinoma; ephrin A1
EphA2 membrane internalization autophosphorylation prostate
 carcinoma
 IT Cell membrane
 (**EphA2** associated with; c-Cbl-dependent **EphA2**
 protein degradation is induced by ligand binding in invasive human
 breast carcinoma and prostate carcinoma cells)
 IT Phosphorylation, biological
 (autophosphorylation, of **EphA2**; c-Cbl-dependent **EphA2**
 protein degradation is induced by ligand binding in invasive human
 breast carcinoma and prostate carcinoma cells)
 IT Molecular association
 (c-Cbl - **EphA2**; c-Cbl-dependent **EphA2**
 protein degradation is induced by ligand binding in invasive human
 breast carcinoma and prostate carcinoma cells)

- IT Human
Protein degradation
(c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT Mammary gland, neoplasm
Prostate gland, neoplasm
(carcinoma; c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT **Proteins**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin**, **ephrin-A1**, **EphA2** ligand;
c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT **Proteins**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene c-Cbl; c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT Biological transport
(internalization, of **EphA2**; c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT Carcinoma
(mammary; c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT Carcinoma
(prostatic; c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)
- IT **149433-91-0, EphA2 receptor tyrosine kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-Cbl-dependent **EphA2 protein** degradation is induced by ligand binding in invasive human breast carcinoma and prostate carcinoma cells)

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L40 ANSWER 27 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:968915 HCAPLUS

DN 138:215719

ED Entered STN: 23 Dec 2002

TI **Blockade of EphA receptor tyrosine
kinase activation inhibits vascular endothelial cell
growth factor-induced angiogenesis**

AU Cheng, Nikki; Brantley, Dana M.; Liu, Hua; Lin, Qin; Enriquez, Miriam;
Gale, Nick; Yancopoulos, George; Cerretti, Douglas Pat; Daniel, Thomas O.;
Chen, Jin

CS Department of Cancer Biology, Division of Rheumatology, Vanderbilt
University School of Medicine, Nashville, TN, 37232, USA

SO Molecular Cancer Research (2002), 1(1), 2-11

CODEN: MCROC5; ISSN: 1541-7786

PB American Association for Cancer Research
 DT Journal
 LA English
 CC 2-10 (Mammalian Hormones)
 AB Angiogenesis is a multistep process involving a diverse array of mol. signals. Ligands for **receptor tyrosine kinases** (RTKs) have emerged as critical mediators of angiogenesis. Three families of ligands, vascular endothelial cell growth factors (VEGFs), angiopoietins, and **ephrins**, act via RTKs expressed in endothelial cells. Recent evidence indicates that VEGF cooperates with angiopoietins to regulate vascular remodeling and angiogenesis in both embryogenesis and tumor neovascularization. However, the relationship between VEGF and **ephrins** remains unclear. Here we show that interaction between **EphA** RTKs and **ephrinA** ligands is necessary for induction of maximal neovascularization by VEGF. **EphA2** RTK is activated by VEGF through induction of **ephrinA1** ligand. A soluble **EphA2-Fc receptor** inhibits VEGF-, but not basic fibroblast growth factor-induced endothelial cell survival, migration, sprouting, and corneal angiogenesis. As an independent, but complementary approach, **EphA2** antisense oligonucleotides inhibited endothelial expression of **EphA2 receptor** and suppressed **ephrinA1**- and VEGF-induced cell migration. Taken together, these data indicate an essential role for **EphA receptor** activation in VEGF-dependent angiogenesis and suggest a potential new target for therapeutic intervention in pathogenic angiogenesis.
 ST **EphA receptor tyrosine kinase VEGF ephrinA1 vessel endothelium angiogenesis**
 IT **Proteins**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**EphrinA1; blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT Apoptosis
 Cell migration
 Cell proliferation
 (**blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT Blood vessel
 (**endothelium; blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT Angiogenesis
 (**neovascularization; blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT Phosphorylation, biological
 (**receptor; blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT Endothelium
 (**vascular; blockade of EphA receptor tyrosine kinase activation inhibits VEGF-induced endothelial cell survival, migration and angiogenesis**)
 IT 106096-93-9, Basic fibroblast growth factor
 RL: BSU (Biological study, unclassified); BIOL (Biological study)

(blockade of EphA receptor
tyrosine kinase activation inhibits VEGF-,
but FGF-induced endothelial cell survival, migration and angiogenesis)
IT 127464-60-2, Vascular endothelial growth factor 149433-91-0,
EphA2 receptor tyrosine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(blockade of EphA receptor
tyrosine kinase activation inhibits
VEGF-induced endothelial cell survival, migration and angiogenesis)
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L40 ANSWER 28 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:910729 HCAPLUS
DN 139:856
ED Entered STN: 02 Dec 2002
TI An Ephrin Mimetic Peptide That Selectively Targets the
EphA2 Receptor

AU Koolpe, Mitchell; Dail, Monique; Pasquale, Elena B.
 CS Burnham Institute, La Jolla, CA, 92037, USA
 SO Journal of Biological Chemistry (2002), 277(49), 46974-46979
 CODEN: JBCHA3; ISSN: 0021-9258
 PB American Society for Biochemistry and Molecular Biology
 DT Journal
 LA English
 CC 1-12 (Pharmacology)
 AB **Eph receptor tyrosine kinases**
 represent promising disease targets because they are differentially expressed in pathol. vs. normal tissues. The **Epha2 receptor** is up-regulated in transformed cells and tumor vasculature where it likely contributes to cancer pathogenesis. To exploit **Epha2** as a therapeutic target, the authors used phage display to identify two related peptides that bind selectively to **Epha2** with high affinity (submicromolar KD values). The peptides target the ligand-binding domain of **Epha2** and compete with ephrin ligands for binding. Remarkably, one of the peptides has ephrin-like activity in that it stimulates **Epha2** tyrosine phosphorylation and signaling. Furthermore, this peptide can deliver phage particles to endothelial and tumor cells expressing **Epha2**. In contrast, peptides corresponding to **receptor** -interacting portions of ephrin ligands bind weakly and promiscuously to many **Eph receptors**. Bioactive ephrin mimetic peptides could be used to selectively deliver agents to **Eph receptor**-expressing tissues and modify **Eph** signaling in therapies for cancer, pathol. angiogenesis, and nerve regeneration.

ST **ephrin mimetic peptide target Epha2 receptor**
 IT **Tyrosine kinase receptors**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin A2; ephrin mimetic peptide that selectively targets the **Epha2 receptor tyrosine kinase** and stimulates signaling)

IT **Proteins**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin A; ephrin mimetic peptide that selectively targets the **Epha2 receptor tyrosine kinase** and stimulates signaling)

IT Human
 Peptide library
 Signal transduction, biological
 (ephrin mimetic peptide that selectively targets the **Epha2 receptor tyrosine kinase** and stimulates signaling)

IT Peptides, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ephrin mimetic peptide that selectively targets the **Epha2 receptor tyrosine kinase** and stimulates signaling)

IT 149433-91-0, **Epha2 receptor tyrosine kinase**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin mimetic peptide that selectively targets the **Epha2 receptor tyrosine kinase** and stimulates signaling)

IT 532441-09-1 532441-10-4 532441-11-5 532441-12-6
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(ephrin mimetic peptide that selectively targets the
EphA2 receptor tyrosine kinase
 and stimulates signaling)

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L40 ANSWER 29 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:822127 HCAPLUS
 DN 138:104526
 ED Entered STN: 29 Oct 2002
 TI Diverse roles for the **Eph** family **receptor**
tyrosine kinases in carcinogenesis

AU Nakamoto, Masaru; Bergemann, Andrew D.
 CS Department of Neurosciences/NC30, Lerner Research Institute, The Cleveland Clinic Foundation, Cleveland, OH, 44195, USA
 SO Microscopy Research and Technique (2002), 59(1), 58-67
 CODEN: MRTEEO; ISSN: 1059-910X
 PB Wiley-Liss, Inc.
 DT Journal; General Review
 LA English
 CC 14-0 (Mammalian Pathological Biochemistry)
 AB A review. The **Eph** family of **receptor Tyr kinases** and their cell-presented ligands, the **ephrins**, are frequently overexpressed in a wide variety of cancers, including breast, small-cell lung and gastrointestinal cancers, melanomas, and neuroblastomas. In particular, one **Eph** family member, **EphA2**, is overexpressed in many cancers, including 40% of breast cancers. **EphA2** can also transform breast epithelial cells in vitro to display properties commonly associated with the development of metastasis. Remarkably, the oncogenic properties of **EphA2** contravene traditional dogma with regard to the oncogenic properties of a growth factor and its **receptor tyrosine kinase**: while stimulation of **EphA2** by its ligand (**ephrin-A1**) results in **EphA2** autophosphorylation, the stimulation reverses the oncogenic transformation. As will be discussed in this review, the apparent dependence of oncogenicity on the dephosphorylated state of **EphA2** most probably reflects the unique nature of **Eph** signaling. In particular, oncogenicity may depend on the capacity of unactivated **EphA2** to interact with a variety of signaling mols. As well as acting in oncogenic transformation, a growing body of evidence supports the importance of the concerted actions of **ephrins** and **Eph** mols. in tumor angiogenesis. Genetic studies, using targeted mutagenesis in mice, reveal that **ephrin-B1**, **ephrin-B2**, and **EphB4** are essential for the normal morphogenesis of the embryonic vasculature into a sophisticated network of arteries, veins, and capillaries. Initial studies indicate that these mols. are also angiogenic in tumors, and as such represent important new targets for the development of chemotherapeutic treatments.

ST review **Eph receptor tyrosine kinase ephrin** tumorigenesis
 IT Transformation, neoplastic
 (**Eph** family **receptor Tyr kinases** in carcinogenesis)
 IT **Proteins**
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
 (**ephrin**; **Eph** family **receptor Tyr kinases** in carcinogenesis)
 IT 149433-92-1, **Eph receptor tyrosine kinase**
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
 (**Eph** family **receptor Tyr kinases** in carcinogenesis)

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 AN 2002:811847 HCAPLUS
 DN 138:301095
 ED Entered STN: 25 Oct 2002
 TI Activation of the **EphA2 tyrosine kinase**
 stimulates the MAP/ERK kinase signaling cascade
 AU Pratt, Rebecca L.; Kinch, Michael S.
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 West Lafayette, IN, 47907-1246, USA
 SO Oncogene (2002), 21(50), 7690-7699
 CODEN: ONCNES; ISSN: 0950-9232
 PB Nature Publishing Group
 DT Journal
 LA English
 CC 13-6 (Mammalian Biochemistry)
 AB Intracellular signaling by **receptor tyrosine**
kinases regulates many different aspects of cell behavior. Recent
 studies in our laboratory and others have demonstrated that the **EphA2**
receptor tyrosine kinase critically regulates
 tumor cell growth, migration and invasiveness. Although the cellular
 consequences of **EphA2** signaling have been the focus of recent
 attention, the biochem. changes that are triggered by ligand-mediated
 activation of **EphA2** remain largely unknown. Herein, we
 demonstrate that ligand stimulation of **EphA2** promotes the
 nucleus translocation and phosphorylation of ERK **kinases**,
 followed by an increase in nuclear induction of the Elk-1 transcription
 factor. Ligand-mediated activation allows **EphA2** to form a mol.
 complex with the SHC and GRB2 adaptor **proteins**. Specifically,
 we demonstrate that **tyrosine** phosphorylated **EphA2**
 interacts with the PTB and SH2 domains of SHC. We also show that the
 interaction of **EphA2** with GRB2 is indirect and mediated by SHC
 and that this complex is necessary for **EphA2**-mediated activation
 of ERK **kinases**. These studies provide a novel mechanism to
 demonstrate how **EphA2** can convey information from the cell
 exterior to the nucleus.
 ST **EphA2 kinase** activation MAP ERK kinase
 signal transduction
 IT Transcription factors
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ELK-1; activation of the **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade in relation to)
 IT **Proteins**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (GRB-2 (growth factor **receptor-bound protein 2**);
 SHC activation of GRB2 and **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade)
 IT Molecular association
 (SHC activation of GRB2 and **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade)
 IT **Proteins**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (SHC; SHC activation of the **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade)
 IT Signal transduction, biological
 (activation of the **EphA2 tyrosine kinase**

stimulation of MAP/ERK kinase signaling cascade)
 IT Cell nucleus
 (activation of the **EphA2 tyrosine kinase**
 stimulation of MAP/ERK kinase signaling cascade and nucleus
 translocation)
 IT Biological transport
 (intracellular; activation of the **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade and nucleus translocation)
 IT Phosphorylation, biological
 (protein; activation of the **EphA2 tyrosine**
kinase stimulation of MAP/ERK kinase signaling
 cascade in relation to)
 IT 142243-02-5, ERK kinase 149433-91-0, **EphA2**
receptor tyrosine kinase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (activation of the **EphA2 tyrosine kinase**
 stimulation of MAP/ERK kinase signaling cascade)

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 31 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:783137 HCAPLUS
 DN 138:53504
 ED Entered STN: 15 Oct 2002
 TI Regulation of the **EphA2** kinase by the low molecular weight **tyrosine** phosphatase induces transformation
 AU Kikawa, Keith D.; Vidale, Drika R.; Van Etten, Robert L.; **Kinch, Michael S.**
 CS Department of Basic Medical Sciences, Purdue University, West Lafayette, IN, 47907, USA
 SO Journal of Biological Chemistry (2002), 277(42), 39274-39279
 CODEN: JBCHA3; ISSN: 0021-9258
 PB American Society for Biochemistry and Molecular Biology
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 AB Intracellular signaling by **protein tyrosine** phosphorylation is generally understood to govern many aspects of cellular behavior. The biol. consequences of this signaling pathway are important because the levels of **protein tyrosine** phosphorylation are frequently elevated in cancer cells. In the classic paradigm, **tyrosine kinases** promote tumor cell growth, survival, and invasiveness, whereas **tyrosine** phosphatases neg. regulate these same behaviors. Here, we identify one particular **tyrosine** phosphatase, low mol. weight **tyrosine** phosphatase (LMW-PTP), which is frequently overexpressed in transformed cells. We also show that overexpression of LMW-PTP is sufficient to confer transformation upon non-transformed epithelial cells. Notably, we show that the **EphA2** **receptor tyrosine kinase** is a prominent substrate for LMW-PTP and that the oncogenic activities of LMW-PTP result from altered **EphA2** expression and function. These results suggest a role for LMW-PTP in transformation progression and link its oncogenic potential to **EphA2**.
 ST **EphA2** LMW **tyrosine** phosphatase signaling assocn neoplastic transformation
 IT Molecular association
 (**EphA2** and LMW-PTP form mol. complex in vivo)
 IT Phosphorylation, biological
 (**protein**, of **protein tyrosine**; regulation of **EphA2** kinase by low mol. weight **tyrosine** phosphatase induces transformation)

IT Dephosphorylation, biological
 Human
 Neoplasm
 Signal transduction, biological
 Transformation, neoplastic
 (regulation of **EphA2 kinase** by low mol. weight
tyrosine phosphatase induces transformation)

IT 60-18-4, L-Tyrosine, biological studies
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study,
 unclassified); PRP (Properties); BIOL (Biological study)
 (phosphorylation; regulation of **EphA2 kinase** by low
 mol. weight **tyrosine phosphatase** induces transformation)

IT 149433-91-0, **EphA2 receptor tyrosine
 kinase** 352548-19-7, Phosphatase, protein
phosphotyrosine, LMW
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study,
 unclassified); BIOL (Biological study)
 (regulation of **EphA2 kinase** by low mol. weight
tyrosine phosphatase induces transformation)

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L40 ANSWER 32 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:758670 HCAPLUS
 DN 138:22838
 ED Entered STN: 07 Oct 2002
 TI Soluble **Eph A receptors** inhibit

tumor angiogenesis and progression in vivo

AU Brantley, Dana M.; Cheng, Nikki; Thompson, Erin J.; Lin, Qing; Brekken, Rolf A.; Thorpe, Philip E.; Muraoka, Rebecca S.; Cerretti, Douglas Pat; Pozzi, Ambra; Jackson, Dowdy; Lin, Charles; Chen, Jin

CS Department of Medicine, Vanderbilt University School of Medicine, Nashville, TN, 37232, USA

SO Oncogene (2002), 21(46), 7011-7026

CODEN: ONCNES; ISSN: 0950-9232

PB Nature Publishing Group

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB The **Eph** family of **receptor tyrosine kinases** and their ligands, known as **ephrins**, play a crucial role in vascular development during embryogenesis. The function of these mols. in adult angiogenesis has not been well characterized. Here, we report that **blocking Eph A class receptor activation inhibits** angiogenesis in two independent tumor types, the RIP-Tag transgenic model of angiogenesis-dependent pancreatic islet cell carcinoma and the 4T1 model of metastatic mammary adenocarcinoma. **Ephrin-A1** ligand was expressed in both tumor and endothelial cells, and **EphA2 receptor** was localized primarily in tumor-associated vascular endothelial cells. Soluble **EphA2-Fc** or **EphA3-Fc receptors inhibited** tumor angiogenesis in cutaneous window assays, and tumor growth in vivo. **EphA2-Fc** or **EphA3-Fc** treatment resulted in decreased tumor vascular d., tumor volume, and cell proliferation, but increased cell apoptosis. However, **EphA2-Fc** had no direct effect on tumor cell growth or apoptosis in culture, yet **inhibited** migration of endothelial cells in response to tumor cells, suggesting that the soluble **receptor inhibited** blood vessel recruitment by the tumor. These data provide the first functional evidence for **Eph A class receptor** regulation of pathogenic angiogenesis induced by tumors and support the function of A class **Eph receptors** in tumor progression.

ST **ephrin A receptor tumor angiogenesis**

IT Mammary gland, neoplasm
(adenocarcinoma, metastasis; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT Pancreatic islet of Langerhans, neoplasm
(carcinoma; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT Blood vessel
(endothelium; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT **Proteins**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin-A1**; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT **Proteins**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin-A2**, soluble complexes, with Fc; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT **Receptors**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ephrin-A2**; soluble **Eph A receptors inhibit** tumor angiogenesis and progression in vivo)

IT **Proteins**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ephrin-A3, soluble complexes, with Fc; soluble Eph
A receptors inhibit tumor angiogenesis and
 progression in vivo)

IT **Carcinoma**
 (mammary adenocarcinoma, metastasis; soluble Eph A
receptors inhibit tumor angiogenesis and progression
 in vivo)

IT **Carcinoma**
 (pancreatic islet; soluble Eph A receptors
inhibit tumor angiogenesis and progression in vivo)

IT **Angiogenesis**
 Human
 (soluble Eph A receptors inhibit
 tumor angiogenesis and progression in vivo)

IT **Endothelium**
 (vascular; soluble Eph A receptors
inhibit tumor angiogenesis and progression in vivo)

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L40 ANSWER 33 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:618525 HCAPLUS
 ED Entered STN: 16 Aug 2002
 TI Design and synthesis of **tyrosine** phosphatase inhibitor directed toward new cancer treatments
 AU Zabell, Adam P. R.; Stauffacher, Cynthia; **Kinch, Michael**; Katsuyama, Isamu; Wiest, Olaf; Helquist, Paul
 CS Walther Cancer Institute, Purdue University, West Lafayette, IN, 47907, USA
 SO Abstracts of Papers, 224th ACS National Meeting, Boston, MA, United States, August 18-22, 2002 (2002), ORGN-130 Publisher: American Chemical Society, Washington, D. C.
 CODEN: 69CZPZ
 DT Conference; Meeting Abstract
 LA English
 AB One of the most important aspects in the treatment of cancer is the control of metastasis. We have been working on identification of **tyrosine kinases** and phosphatases, which are relevant to metastatic cancers. Recent studies have shown that unphosphorylated **EphA2 tyrosine kinase** participates in metastatic cell growth and invasiveness, that **tyrosine** phosphatase HCPTP is overexpressed in metastatic cells, and that HCPTP can dephosphorylate **EphA2**. Thus, designing inhibitors selective for HCPTP are expected to provide a novel mechanism to reduce or eliminate the metastatic effects of **EphA2**. On the basis of this concept, possible inhibitors have been proposed by use of computational design and their synthetic studies have subsequently been started. The recent progress on this work directed toward new cancer treatments will be reported.

L40 ANSWER 34 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:580110 HCAPLUS
 DN 137:382619
 ED Entered STN: 05 Aug 2002
 TI Negative regulation of **EphA2 receptor** by Cbl
 AU Wang, You-jie; Ota, Satoshi; Kataoka, Hideki; Kanamori, Masao; Li, Zhong-you; Band, Hamid; Tanaka, Masamitsu; Sugimura, Haruhiko
 CS First Department of Pathology, Hamamatsu University School of Medicine,

- Handayama, Hamamatsu, 431-3192, Japan
- SO Biochemical and Biophysical Research Communications (2002),
296(1), 214-220
CODEN: BBRCA9; ISSN: 0006-291X
- PB Elsevier Science
- DT Journal
- LA English
- CC 13-2 (Mammalian Biochemistry)
- AB The c-Cbl proto-oncogene product Cbl has emerged as a neg. regulator of
**receptor and non-receptor tyrosine
kinases**, a function dependent on its recently identified ubiquitin
ligase activity. Here, we report that **EphA2**, a member of
Eph receptor tyrosine kinases is
neg. regulated by Cbl. The neg. regulation of **EphA2** mediated by
Cbl is dependent on the activity of **EphA2**, as the **kinase**
inactive mutant of **EphA2** cannot be regulated by Cbl. Moreover,
a point mutation (G306E-Cbl) in TKB region of Cbl that has been reported
to abolish Cbl binding to RTKs and non-receptor tyrosine
kinases impaired the binding to active **EphA2**. The
dominant neg. mutant 70Z-Cbl, which has a 17-amino acids deletion in the
N-boundary of the RING finger domain, showed defunct neg. regulatory
function of Cbl to **EphA2**. These results demonstrate that the
TKB domain and RING finger domain of Cbl are essential for this neg.
regulation.
- ST Cbl protein **EphA2 receptor tyrosine
kinase**
- IT Protein motifs
(RING finger; RING finger domain of Cbl in neg. regulation of
EphA2 receptor)
- IT Protein motifs
(TKB (tyrosine kinase-binding) domain; TKB domain
of Cbl in neg. regulation of **EphA2 receptor**)
- IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-cbl; neg. regulation of **EphA2 receptor** by Cbl in
relation to)
- IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene c-Cbl; neg. regulation of **EphA2 receptor** by
Cbl)
- IT 149433-91-0, **EphA2 receptor tyrosine
kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(neg. regulation of **EphA2 receptor** by Cbl)
- RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 35 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:567861 HCAPLUS

DN 137:367053

ED Entered STN: 31 Jul 2002

TI **EphrinA1**-induced cytoskeletal re-organization requires FAK and p130cas

AU Carter, Nigel; Nakamoto, Tetsuya; Hirai, Hisamaru; Hunter, Tony

CS Molecular and Cell Biology Laboratory, The Salk Institute for Biological Studies, La Jolla, CA, 92037, USA

SO Nature Cell Biology (2002), 4(8), 565-573

CODEN: NCBIFN; ISSN: 1465-7392

PB Nature Publishing Group

DT Journal

LA English

CC 13-6 (Mammalian Biochemistry)

AB **Ephrins** and **Eph receptors** are involved in axon guidance and cellular morphogenesis. An interaction between **ephrin** and **Eph receptors** elicits neuronal growth-cone collapse through cytoskeletal disassembly. When NIH3T3 cells were plated onto an **ephrinA1**-coated surface, the cells both adhered and spread. Adhesion and spreading proceeded concomitantly with changes in both the actin and microtubule cytoskeleton. **EphA2**, focal adhesion kinase (FAK) and p130cas were identified as the major **ephrin**-dependent phosphotyrosyl proteins during the **ephrin**-induced morphol. changes. Mouse embryonic fibroblasts (MEFs) derived from FAK^{-/-} and p130cas^{-/-} mice had severe defects in **ephrinA1**-induced cell spreading, which were reversed after re-expression of FAK or p130cas, resp. Expression of a constitutively active **EphA2** induced NIH3T3 cells to undergo identical, but ligand-independent, morphol. changes. These data show that **ephrinA1** can induce cell adhesion and actin cytoskeletal changes in fibroblasts in a FAK- and p130cas-dependent manner, through activation of the **EphA2 receptor**. The finding that **ephrin-Eph** signalling can result in actin cytoskeletal assembly, rather than disassembly, has many implications for **ephrin-Eph** responses in other cell types.

ST FAK p130cas **ephrina receptor** cytoskeletal reorganization

IT Animal cell line

(3T3, NIH3T3; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Growth factors, animal

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**EphrinA1**; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Adhesion, biological

Cytoskeleton

Morphogenesis, animal

(FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Fibroblast

Microtubule

Molecular association

(FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization in relation to)

IT Actins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization in relation to)

IT Spreading

(biol.; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Axon

(outgrowth; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Proteins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(p125FAK; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Phosphoproteins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(p130cas; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT Receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**protein**, **EphrinA1**; FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

IT 144114-16-9, Focal adhesion kinase

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(FAK and p130cas in **EphrinA1** and **receptors** in induction of cytoskeletal reorganization)

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- L40 ANSWER 36 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:392768 HCAPLUS
 DN 137:31807
 ED Entered STN: 28 May 2002
 TI Antibody targeting of the **EphA2 tyrosine kinase** inhibits malignant cell behavior
 AU Carles-Kinch, Kelly; Kilpatrick, Katherine E.; Stewart, Jane C.;
Kinch, Michael S.
 CS Dep. Basic Med. Sci., Purdue Univ. Cancer Center, West Lafayette, IN,
 47907, USA
 SO Cancer Research (2002), 62(10), 2840-2847
 CODEN: CNREA8; ISSN: 0008-5472
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 15-3 (Immunochemistry)
 AB **EphA2** is a transmembrane **receptor tyrosine kinase** that is up-regulated on many aggressive carcinoma cells. Despite its overexpression, the **EphA2** on malignant cells fails to bind its ligand, **ephrinA1**, which is anchored to the membrane of adjacent cells. Unlike other **receptor kinases**, **EphA2** demonstrates **kinase** activity that is independent of ligand binding. However, ligand binding causes **EphA2** to neg. regulate tumor cell growth and migration. Herein, we translate knowledge of **EphA2** into strategies that selectively target malignant cells. Using a novel approach to preserve extracellular epitopes and optimize antibody diversity, we generated monoclonal antibodies that identify epitopes on the extracellular domain of **EphA2**. **EphA2** antibodies were selected for their abilities to inhibit behaviors that are unique to metastatic cells while minimizing damage to nontransformed cells. A subset of **EphA2** monoclonal antibodies were found to inhibit the soft agar colonization by MDA-MB-231 breast

tumor cells but did not affect monolayer growth by nontransformed MCF-10A breast epithelial cells. These **EphA2** antibodies also prevented tumor cells from forming tubular networks on reconstituted basement membranes, which is a sensitive indicator of metastatic character. Biochem. analyses showed that biol. active antibodies induced **EphA2** phosphorylation and subsequent degradation. Antisense-based targeting of **EphA2** similarly inhibited soft agar colonization, suggesting that the antibodies repress malignant behavior by down-regulating **EphA2**. These results suggest an opportunity for antibody-based targeting of the many cancers that overexpress **EphA2**. Our studies also emphasize how tumor-specific cellular behaviors can be exploited to identify and screen potential therapeutic targets.

- ST **EphA2 kinase phosphorylation monoclonal antibody**
cancer
- IT Antibodies and Immunoglobulins
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(IgG1, monoclonal; antibody targeting of **EphA2 tyrosine kinase** inhibits malignant cell behavior)
- IT Antitumor agents
Cell proliferation
Human
Neoplasm
(antibody targeting of **EphA2 tyrosine kinase** inhibits malignant cell behavior)
- IT Phosphorylation, biological
(protein; antibody targeting of **EphA2 tyrosine kinase** inhibits malignant cell behavior)
- IT 149433-91-0, **EphA2 receptor tyrosine kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibody targeting of **EphA2 tyrosine kinase** inhibits malignant cell behavior)
- RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 37 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:361208 HCAPLUS

DN 137:91669

ED Entered STN: 15 May 2002

TI Estrogen and Myc negatively regulate expression of the **EphA2 tyrosine kinase**

AU Zelinski, Daniel P.; Zantek, Nicole Dodge; Walker-Daniels, Jennifer; Peters, Mette A.; Taparowsky, Elizabeth J.; **Kinch, Michael S.**

CS Department of Basic Medical Sciences, Purdue University Cancer Center, West Lafayette, IN, 47907, USA

SO Journal of Cellular Biochemistry (2002), 85(4), 714-720

CODEN: JCEBD5; ISSN: 0730-2312

PB Wiley-Liss, Inc.

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 2

AB Estrogen **receptor** and c-Myc are frequently overexpressed during breast cancer progression but are downregulated in many aggressive forms of the disease. High levels of the **EphA2 tyrosine kinase** are consistently found in the most aggressive breast cancer cells, and **EphA2** overexpression can increase metastatic potential. We demonstrate, herein, that estrogen and Myc neg. regulate **EphA2** expression in mammary epithelial cells. These data reveal **EphA2** as a downstream target of estrogen and Myc and suggest a mechanism by which estrogen and Myc may regulate breast cancer.

ST estrogen cMYC **EphA2 tyrosine kinase** mammary epithelium cancer

IT Mammary gland, disease

(benign; estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)

IT Transcription factors

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(c-myc; estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)

IT Mammary gland

(epithelium; estrogen and c-Myc neg. regulate **EphA2**

- tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)
- IT Human
Mammary gland, neoplasm
(estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)
- IT Estrogen receptors
Estrogens
mRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)
- IT Epithelium
(mammary; estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)
- IT Mammary gland, neoplasm
(metastasis; estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)
- IT 50-28-2, 17 β -Estradiol, biological studies 10540-29-1, Tamoxifen 149433-91-0, **EphA2 receptor tyrosine kinase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(estrogen and c-Myc neg. regulate **EphA2 tyrosine kinase** expression in mammary epithelial cells in relation to breast cancer)

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 38 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:285562 HCAPLUS

DN 137:61578

ED Entered STN: 17 Apr 2002

TI Expressed gene sets as markers for specific tumors

IN Ramaswamy, Sridhar; Golub, Todd B.; Tamayo, Pablo; Angelo, Michael

PA Whitehead Institute for Biomedical Research, USA; Dana-Farber Cancer Institute, Inc.

SO PCT Int. Appl., 715 pp.

CODEN: PIXXD2

DT Patent

LA English

IC C12Q001-68

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 3, 9, 63

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2002024956	A2	20020328	WO 2001-XB29287	20010919 <--	
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
	WO 2002024956	A2	20020328	WO 2001-US29287	20010919 <--	
	WO 2002024956	C1	20030306			
	WO 2002024956	A3	20030626			
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
PRAI	US 2000-233534P	P	20000919	<--		
	US 2001-278749P	P	20010326	<--		
	WO 2001-US29287	W	20010919	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002024956	IC	C12Q001-68
WO 2002024956	ECLA	C12Q001/68M6B <--

AB Sets of genetic markers for specific tumor classes are described, as well as methods of identifying a biol. sample based on these markers. Total RNA was isolated from .apprx.300 human tumor and normal tissue specimens representing 30 individual classes of tumor or normal tissue, and cDNA produced using established mol. biol. protocols was hybridized to two high d. Affymetrix oligonucleotide microarrays (Hu6800FL and Hu35KsubA0). Raw expression data was combined into a master data set containing the expression

values for between 6800 and 16,000 genes expressed by each individual sample. A filter was applied to this data set which only allows those genes expressed at 3-fold above baseline and with an absolute difference in expression value of 100 to pass. By comparing the sets of genes which are expressed specifically in one class of tumor (e.g., pancreatic adenocarcinoma) vs. its accompanying normal tissue (e.g., normal pancreas), sets of genes were determined which are specific to various tumors and their normal tissue counterparts. Also described are diagnostic, prognostic, and therapeutic screening uses for these markers, as well as oligonucleotide arrays comprising these markers. [This abstract record is one of 4 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

- ST gene expression marker tumor diagnosis screening human; bladder tumor gene expression marker; breast tumor gene expression marker; central nervous system tumor gene expression marker; colorectal tumor gene expression marker; endometrial tumor gene expression marker; lung tumor gene expression marker; lymphoma gene expression marker; melanoma gene expression marker; ovarian tumor gene expression marker; pancreas tumor gene expression marker; mesothelioma gene expression marker; prostate tumor gene expression marker; microarray tumor gene expression marker
- IT Leukemia
 - (B-cell, acute; expressed gene sets as markers for specific tumors)
- IT Leukemia
 - (T-cell, acute; expressed gene sets as markers for specific tumors)
- IT Leukemia
 - (acute myelogenous; expressed gene sets as markers for specific tumors)
- IT Lung, neoplasm
 - Mammary gland, neoplasm
 - Ovary, neoplasm
 - Pancreas, neoplasm
 - Prostate gland, neoplasm
 - (adenocarcinoma; expressed gene sets as markers for specific tumors)
- IT Carcinoma
 - (bladder transitional cell; expressed gene sets as markers for specific tumors)
- IT Diagnosis
 - (cancer; expressed gene sets as markers for specific tumors)
- IT Nervous system, neoplasm
 - (central; expressed gene sets as markers for specific tumors)
- IT Carcinoma
 - Intestine, neoplasm
 - (colorectal adenocarcinoma; expressed gene sets as markers for specific tumors)
- IT Lymphoma
 - (diffuse large cell; expressed gene sets as markers for specific tumors)
- IT Uterus, neoplasm
 - (endometrium, adenocarcinoma; expressed gene sets as markers for specific tumors)
- IT DNA microarray technology
 - Drug screening
 - Gene expression profiles, animal
 - Human
 - Leukemia
 - Lymphoma
 - Melanoma
 - Tumor markers
 - (expressed gene sets as markers for specific tumors)
- IT mRNA

RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (expressed gene sets as markers for specific tumors)

IT Antibodies and Immunoglobulins
 RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (expressed gene sets as markers for specific tumors)

IT Gene, animal
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (expressed gene sets as markers for specific tumors)

IT Probes (nucleic acid)
 RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (immobilized; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (mammary adenocarcinoma; expressed gene sets as markers for specific tumors)

IT Lung, neoplasm
 (mesothelioma; expressed gene sets as markers for specific tumors)

IT Lymphoma
 (nodular; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (ovarian adenocarcinoma; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (pancreatic adenocarcinoma; expressed gene sets as markers for specific tumors)

IT Susceptibility (genetic)
 (prediction of; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (prostatic adenocarcinoma; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (pulmonary adenocarcinoma; expressed gene sets as markers for specific tumors)

IT Antitumor agents
 (screening for; expressed gene sets as markers for specific tumors)

IT Bladder, neoplasm
 (transitional cell carcinoma; expressed gene sets as markers for specific tumors)

IT Carcinoma
 (uterine endometrial adenocarcinoma; expressed gene sets as markers for specific tumors)

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 139045-39-9, DNA (human gene Hox-1.4 **protein** cDNA plus 3'-flank)
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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific tumors)

IT 140961-24-6 140978-74-1, DNA (human gene C4A) 140983-02-4 140983-58-0 140985-40-6, GenBank X51954 140997-58-6 140999-65-1, DNA (human sperm protein 10 cDNA) 141010-19-7 141163-75-9 141165-06-2 141657-83-2 141657-84-3, DNA (human gene MRC1) 141659-10-1 141706-30-1 141878-02-6 142318-64-7 142361-75-9 142481-63-8 142789-15-9 142789-30-8 142789-47-7 142830-39-5, DNA (human gene cdk3 protein kinase cDNA plus flanks) 142862-45-1 142862-62-2 143001-97-2 143003-24-1, DNA (human clone HG2-3e defensin isoform 5 gene plus flanks) 143003-34-3 143283-35-6, GenBank X64269 143368-19-8 143386-42-9 143388-18-5 143524-15-6, GenBank L00972 143695-13-0, DNA (human epithelin cDNA plus flanks) 143787-32-0 143990-05-0, GenBank X65727 143990-09-4 144014-52-8, DNA (human chromosome X 1872-nucleotide fragment) 144014-55-1, DNA (human gene HOX7 protein cDNA plus flanks) 144014-70-0 144531-44-2 144531-47-5 144531-48-6 144531-69-1 144560-13-4 144560-31-6 144560-67-8 144590-74-9 144755-63-5 145405-51-2 145495-59-6 145710-48-1 145711-46-2 145711-50-8, DNA (human connexin 37 cDNA plus flanks) 145734-31-2 145885-48-9 145906-46-3, DNA (human arylsulfatase A cDNA) 145906-60-1 145906-65-6, DNA (human gene MCL1 cDNA) 145906-66-7 145906-68-9 145906-69-0, GenBank X51698 145973-35-9 147190-92-9 147191-78-4 147825-49-8 148086-69-5 148106-92-7 148106-94-9 148253-81-0 148394-74-5 148448-81-1, DNA (human gene GOS8 plus flanks) 148489-51-4 148803-09-2, GenBank X69699 148958-71-8 148958-80-9 149239-81-6 149278-23-9 149309-67-1, DNA (human retinoic acid receptor isoform γ fragment-specifying) 149318-04-7 149348-71-0 149702-48-7 149738-21-6 149800-67-9 149801-72-9 150003-43-3 150219-16-2 150219-72-0 150219-73-1 150219-97-9, DNA (human clone gES-6 peptide YY gene plus flanks) 150247-53-3 150326-43-5 150421-29-7, DNA (human gene PCK1 plus flanks) 150488-75-8, DNA (human gene C6) 150489-55-7 150498-65-0 150510-74-0 150510-91-1 150574-93-9 150755-01-4 150861-12-4 150861-19-1 150862-92-3 150912-14-4 150946-37-5, GenBank X68994 151210-94-5 151212-76-9 151242-00-1 151279-88-8 151315-23-0, GenBank L23852 151318-00-2 151318-04-6 151319-18-5 151350-66-2 151350-69-5 151430-26-1 151431-95-7 151469-96-4 151470-00-7 151471-49-7 151494-19-8 151550-24-2 151576-51-1 151576-70-4 151576-92-0, DNA (human gene N-cym protein cDNA plus flanks) 151580-68-6 151612-44-1 151658-42-3, DNA (human connexin 40 gene plus flanks) 151661-32-4 151784-77-9 152002-67-0 152281-24-8 152283-42-6 152317-60-7 152345-13-6 152345-14-7 152347-85-8, DNA (human gene HRY plus flanks) 152392-99-9 152395-29-4

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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

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plus flanks) 168802-17-3 168857-47-4 168857-68-9 168882-67-5
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 GenBank D82373 173487-64-4 173573-29-0 173661-84-2 173661-86-4
 173708-75-3, DNA (human clone jj1b cDNA) 173753-96-3 173758-66-2, DNA
 (human gene HD-6 plus flanks) 173889-20-8 173891-43-5, DNA (human
 cadherin 15 cDNA plus flanks) 173891-44-6 173893-06-6 173893-10-2
 173968-70-2 174057-07-9 174121-27-8 174124-42-6 174127-56-1
 174286-76-1 174287-31-1 174388-39-7 174441-90-8, DNA (human clone
 #48ES4 cDNA) 174442-85-4 174478-15-0 174518-29-7 174820-89-4
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL

(Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 174821-80-8, DNA (human gene MDS1 cDNA) 175001-00-0 175004-10-1, DNA
 (human mariner element Hsmar2) 175004-94-1 175007-63-3, DNA (human
 gene HNMT exon 6 plus flanks) 175008-17-0 175038-06-9 175040-79-6
 175045-42-8 175107-65-0 175108-24-4 175113-05-0, DNA (human gene
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 (human GABAA receptor alpha3) 175270-48-1, GenBank U51010
 175270-64-1 175270-71-0, GenBank U51711 175299-02-2, DNA (human gene
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 (human gene Doc1) 176348-17-7 176355-91-2, GenBank W26769
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 GenBank W28252 176416-47-0 176428-38-9 176459-47-5 176464-52-1
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 176740-71-9 176800-07-0, DNA (human gene RACH1 cDNA) 176883-39-9
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 179727-11-8 179773-35-4 179773-78-5 179780-03-1 179787-01-0
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 cDNA) 180109-04-0 180118-30-3 180121-08-8 180173-27-7
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 161455-2-3 cDNA) 180672-32-6, DNA (human clone W2-6 cDNA) 180674-18-4
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 U67614 181087-60-5 181087-79-6 181091-83-8 181095-22-7
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 181687-64-9 181688-54-0 181726-44-3 181861-24-5, DNA (human gene
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 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 181922-26-9 182099-03-2 182113-82-2 182335-57-5 182342-28-5, DNA
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 182667-45-4, GenBank AA095600 182726-09-6 182726-30-3 182736-53-4
 182762-41-0, DNA (human cell line KD cDNA) 182774-82-9 182791-83-9
 182793-34-6 182858-93-1 182860-63-5 182860-92-0 182911-68-8
 182942-52-5 183080-65-1 183100-32-5 183100-37-0 183100-52-9
 183100-56-3 183192-26-9, DNA (human cell line HeLa clone C3 cDNA)
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 183632-34-0 183640-19-9 183644-77-1 183686-19-3 183687-95-8
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 183772-72-7 183773-24-2 183777-80-2 183779-07-9 183781-34-2, DNA
 (human gene nbr cDNA) 183820-63-5 183820-77-1 183821-69-4
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 RACE clone A3 cDNA) 183983-92-8 183984-22-7 183984-25-0
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 184329-92-8 184332-16-9 184333-06-0 184333-86-6 184334-25-6
 184334-37-0 184339-82-0 184342-71-0 184343-23-5 184381-27-9
 184383-01-5 184391-26-2 184398-52-5 184412-45-1 184414-01-5
 184501-15-3 184512-11-6 184610-03-5 184611-54-9 184660-11-5, DNA
 (human gene GPR23 plus flanks) 184665-25-6 184672-66-0, DNA (human

gene DDR fragment) 184673-20-9 184750-98-9 184753-67-1 184860-63-7
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 (human gene HXC-26 cDNA) 184976-07-6 185008-36-0 185079-43-0
 185080-80-2 185083-60-7 185083-66-3, DNA (human gene RFB30 plus
 flanks) 185176-44-7 185179-13-9 185231-24-7, GenBank D17357
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 185277-62-7 185294-66-0 185354-34-1 185359-89-1 185367-32-2
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 185474-11-7 185481-52-1 185634-65-5 185649-22-3 185650-14-0
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 186226-71-1, DNA (human YF5 cDNA) 186292-18-2 186363-68-8
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 clone IMAGE:74593 cDNA) 186404-15-9 186445-82-9, DNA (human clone
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 187192-53-6 187193-78-8 187201-28-1 187202-54-6 187202-57-9
 187204-27-9 187310-20-9, DNA (human EST (expressed sequence tag))
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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

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 (human clone 23665 cDNA) 188089-64-7, DNA (human clone 23587 cDNA)
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 188218-22-6 188219-78-5, DNA (human gene GCP-2 plus flanks)
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 189436-35-9 189463-46-5, DNA (human sarcolipin cDNA plus flanks)

189520-90-9 189605-37-6 189608-25-1 189608-35-3 189708-66-5
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 (human clone 143789 cDNA) 189775-52-8, DNA (human gene ATP2A1 plus gene
 ATP2A1) 189776-69-0 189778-15-2 189778-41-4 189787-55-1
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 (human gene FLII) 190920-46-8 190920-95-7, DNA (human P2x purinoceptor
 cDNA) 190921-05-2, DNA (human cell line WI-38 cDNA) 190984-65-7
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 190987-31-6 190989-34-5 191001-62-4 191004-16-7 191007-62-2
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 AA340065 191832-60-7, GenBank AA340539 191889-75-5 191897-30-0
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 192020-92-1, GenBank AA350030 192143-29-6 192143-49-0 192143-58-1
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 GenBank AA358888 192289-52-4 192304-27-1 192399-66-9, GenBank
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 193937-44-9 193942-90-4 193943-27-0 193943-56-5 194004-80-3
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 (human gene RGS3 cDNA) 194331-29-8, DNA (human cadherin FIB1 cDNA)
 194331-30-1, DNA (human cadherin FIB2 cDNA) 194331-31-2, DNA (human
 cadherin FIB3 cDNA) 194382-34-8 194514-50-6 194516-36-4
 194826-39-6, DNA (human cell line MeWo cDNA) 194882-73-0 194957-26-1,
 GenBank U78166 195582-42-4 195651-25-3, DNA (human clone TEB4 TEB4
protein cDNA) 195770-46-8, DNA (human clone GS1-244B22)
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 197065-38-6 197065-40-0 197105-43-4 197107-15-6 197116-07-7
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 197421-57-1 197426-28-1 197428-92-5 197429-69-9 197429-78-0
 197465-46-6 197465-76-2 198385-63-6 198387-76-7 198389-31-0
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 252792-10-2

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 252798-44-0, DNA (human gene N-CAM cDNA) 252799-34-1, GenBank S73149
 252800-23-0 252804-47-0 252807-38-8, GenBank S76978 252809-30-6,
 GenBank S77393 252809-85-1, GenBank S77582 252813-68-6, DNA (human
 gene 5-HT2A R) 252813-97-1, DNA (human gene CD4 **receptor** cDNA)
 252816-30-1, DNA (human fatty acid synthase cDNA) 252817-22-4, DNA
 (human gene CHN cDNA) 252817-43-9, DNA (human gene DCC cDNA)
 252818-18-1, GenBank S81083 252818-19-2, DNA (human gene Hs-TBX2 cDNA)
 252818-28-3, GenBank S81893 252818-32-9, GenBank S81578 252818-62-5,
 DNA (human phosphoglycerate **kinase** cDNA) 252820-17-0
 252822-86-9, DNA (human caldecrin precursor) 252823-76-0, DNA (human
 gene PRB2) 382735-60-6, DNA (human gene FSHB) 382735-91-3, DNA (human
 clone pKH18 cDNA) 382736-10-9, DNA (human gene REN) 382757-02-0, DNA
 (human gene IGHA1) 382866-08-2, DNA (human cell line YUSITI cDNA)
 383273-66-3, DNA (human gene flt cDNA) 383790-50-9, GenBank S83366
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 384422-32-6, DNA (human gene VCAM1 cDNA) 384423-54-5 384426-75-9
 384427-24-1 384429-16-7 384430-09-5 384430-35-7 384431-41-8, DNA
 (human coagulation factor X gene) 384433-32-3 384435-50-1, DNA (human
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 isolate patient MZ2) 384588-16-3, DNA (human isolate patient MZ2)
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 line LB33-MEL.A-1) 384649-87-0, DNA (human gene NPM-MLF1 cDNA)
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 384653-54-7 384653-65-0

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 384655-21-4, DNA (human gene MIHB cDNA) 384655-55-4 384655-92-9, DNA
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 384664-90-8 384667-57-6, GenBank U50822 384681-06-5 384681-35-0
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 384691-51-4, DNA (human cell line LNCaP cDNA) 384693-02-1, DNA (human
 cell line KG-1 cDNA) 384693-58-7, DNA (human gene TCTEL1 cDNA)
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 (human gene CMKBR5) 384695-17-4, DNA (human cell line HaCaT cDNA)
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) 384976-91-4, DNA (human clone 4X.3) 384977-16-6, DNA (human gene
 TRY1 cDNA) 384977-21-3 384977-23-5, DNA (human gene B12 cDNA)
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 cDNA) 384979-34-4 384983-76-0 384986-45-2 384997-12-0
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 (human gene PCOLCE cDNA) 385082-06-4, DNA (human clone FL-2 cDNA)
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RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (nucleotide sequence; expressed gene sets as markers for specific tumors)

IT 389259-07-8 389261-10-3 389278-87-9, DNA (human Snf2-b gene cDNA plus flanks) 389278-90-4, DNA (human clone S240i117/zap112 cDNA) 389283-46-9, GenBank U33202 389283-47-0 389297-61-4, DNA (human clone

ph3b7) 389299-59-6 389308-01-4, DNA (human isolate Germany cDNA)
 389310-50-3 389311-33-5 389316-25-0, DNA (human gene SSAT plus flanks)
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 line HL-60 cDNA) 391525-65-8 391525-71-6 391525-76-1 391525-77-2
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 391526-52-6 391526-54-8, DNA (human gene CEA cDNA) 391526-60-6
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391527-69-8 391527-72-3 391527-81-4 391527-87-0 391528-05-5
391528-06-6 391528-10-2 391528-16-8 391528-20-4, DNA (human gene FAH
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391528-38-4

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
tumors)

IT 391528-40-8, DNA (human cell line HeLa clone F6 cDNA) 391528-52-2
391528-54-4 391528-68-0, DNA (human gene PMP1 cDNA) 391528-70-4, DNA
(human gene p78 cDNA) 391528-75-9 391528-90-8, DNA (human IgG)
391528-92-0, DNA (human P-cadherin cDNA plus flanks) 391529-03-6, DNA
(human clone p-lambda-H6-7 cDNA) 391529-04-7 391529-06-9, DNA (human
gene ACTB plus flanks) 391529-09-2, DNA (human clone pTF. gene ADRB2
cDNA) 391529-12-7 391529-13-8, DNA (human gene CLTA cDNA)
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391529-72-9, DNA (human gene MGMT **protein** cDNA) 391529-91-2
391529-96-7, DNA (human gene RBP1 cDNA) 391529-99-0 391530-24-8
391530-32-8 391530-34-0 391530-42-0 391530-80-6 391530-83-9, DNA
(human cell line Hs68 cDNA) 391530-84-0, DNA (human iron regulatory
factor) 391530-92-0 391531-06-9, DNA (human gene DBI **protein**
cDNA) 391531-14-9, DNA (human gene IGHG3 cDNA) 391531-19-4, GenBank
M21054 391531-23-0, DNA (human clone lambda TI-C1 cDNA) 391531-30-9
391531-32-1, DNA (human clone pCOX7.183) 391532-11-9 391532-25-5, DNA
(human gene COL1A2 cDNA) 391532-26-6 391532-27-7 391532-29-9, DNA
(human gene c-yes-1 **protein** cDNA) 391532-46-0, DNA (human
serine protease gene) 391532-48-2 391532-53-9, DNA (human clone M1-M5
and B1-B4 cDNA) 391532-55-1, DNA (human gene VCL **protein** cDNA)
391532-66-4 391532-68-6 391532-69-7 391532-74-4 391532-75-5
391533-05-4 391533-20-3 391533-21-4 391533-27-0, DNA (human gene
K-sam-I) 391533-29-2, DNA (human gene CTSS cDNA) 391533-31-6, DNA
(human desmin gene) 391533-33-8, DNA (human gene IGFBP3) 391533-36-1
391533-50-9, DNA (human gene FMO2 cDNA) 391533-71-4 391533-80-5, DNA
(human gene PLAT) 391533-87-2 391534-11-5 391534-13-7 391534-20-6
391534-28-4, DNA (human mevalonate **kinase** cDNA) 391534-43-3
391534-46-6 391534-62-6 391534-72-8 391534-87-5, DNA (human serum
protein cDNA) 391534-93-3, DNA (human gene MK) 391534-95-5,
DNA (human clone C328-10 cDNA) 391535-13-0, DNA (human cell line T47D
cDNA) 391535-29-8 391535-52-7 391535-66-3 391535-84-5
391535-88-9 391536-06-4, DNA (human cell line BJA cDNA) 391536-08-6
391536-09-7, DNA (human cell line B5/589 cDNA) 391536-12-2, DNA (human
gene MYL5 cDNA) 391536-19-9, DNA (human transcription activator cDNA)
391536-20-2, DNA (human gene TLE1 cDNA) 391536-22-4 391536-35-9
391536-65-5, DNA (human immunophilin cDNA) 391536-66-6 391536-67-7,
DNA (human gene PLOD cDNA) 391536-73-5, DNA (human gene RPL37A cDNA)
391537-03-4, DNA (human gene NPYY1 cDNA) 391537-19-2 391537-21-6
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391538-41-3 391538-55-9 391538-96-8 391538-98-0 391539-19-8
391539-22-3 391539-25-6, DNA (human cell line Hela clone HL-27)
391539-32-5 391539-44-9 391539-59-6 391539-63-2 391539-74-5, DNA
(human cell line KB cell line cDNA) 391539-84-7 391539-90-5, DNA
(human cell line KG-1 cDNA) 391539-94-9, DNA (human cell line KG-1 cDNA)
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cDNA) 391540-13-9, DNA (human cell line KG-1 cDNA) 391540-14-0, DNA
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cDNA) 391540-89-9, DNA (human protocadherin 42 cDNA) 391541-10-9, DNA

(human gene GRK5 cDNA) 391541-27-8 391541-33-6 391541-38-1, DNA
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 391541-71-2, DNA (human cell line HeLa S3 cDNA) 391541-80-3, DNA (human
 gene CAST cDNA) 391541-96-1 391542-02-2, DNA (human gene PPP3CA cDNA)
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 391542-21-5, DNA (human clone S100D cDNA) 391542-28-2, DNA (human
 kinesin light chain cDNA) 391542-40-8, DNA (human gene MIF)
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 fibrillin cDNA) 391542-61-3 391542-96-4, DNA (human surfactant
 protein A cDNA) 391542-98-6, DNA (human gene GPI-H cDNA)
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 DAG1 cDNA) 391543-95-6, DNA (human A2b adenosine receptor
 cDNA) 391544-00-6 391544-09-5 391544-19-7 391544-21-1, DNA (human
 I-plastin cDNA) 391544-24-4 391544-30-2 391544-39-1 391544-42-6
 391544-47-1 391544-59-5 391544-70-0 391544-74-4, DNA (human cell
 line HeLa cells) 391544-80-2, DNA (human clone pHPM11 cDNA)
 391544-83-5 391544-90-4, DNA (human prolylcarboxypeptidase cDNA)
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 391545-16-7 391545-18-9 391545-20-3 391545-23-6 391545-41-8, DNA
 (human gene MC5R) 391545-44-1, DNA (human cell line KG-1 cDNA)
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 cDNA) 391545-62-3 391545-64-5, DNA (human 5T4 oncofetal antigen)
 391545-65-6 391545-67-8, DNA (human cell line KG-1 cDNA) 391545-96-3
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 mu cDNA) 391546-20-6, DNA (human cell line HL60 cDNA) 391546-29-5, DNA
 (human caltractin cDNA) 391546-48-8, GenBank L25880 391546-58-0
 391546-63-7, DNA (human cell line Molt4 cDNA) 391546-64-8, DNA (human
 histidase cDNA) 391546-77-3 391546-78-4 391546-79-5, DNA (human gene
 EHHADH cDNA) 391546-82-0 391546-86-4 391546-87-5, DNA (human Na+
 channel protein cDNA) 391546-90-0, DNA (human cell line KG-1
 cDNA) 391546-94-4 391546-98-8 391547-09-4, DNA (human gene garp
 cDNA) 391547-50-5 391547-51-6, DNA (human 56K autoantigen cDNA)
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 (human clone Lambda GS2-1 cDNA) 391547-88-9, DNA (human clone 2004-1407
) 391547-92-5 391548-04-2, DNA (human gene ARL3 cDNA) 391548-10-0
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 cDNA) 391548-59-7 391548-61-1 391548-89-3, DNA (human gene CAT cDNA)
 391549-05-6, GenBank X69920 391549-19-2, DNA (human isolate Japanese
 cDNA) 391549-25-0 391549-33-0 391549-55-6, GenBank D29675
 391549-62-5, DNA (human cell line KG-1 cDNA) 391549-78-3, DNA (human
 cell line Raji DAD-1 cDNA) 391549-81-8, DNA (human gene NNMT cDNA)
 391549-83-0, DNA (human ORF cDNA) 391549-87-4 391549-91-0
 391549-96-5

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 391550-24-6 391550-26-8 391550-27-9 391550-28-0, DNA (human cell
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 391550-40-6 391550-44-0, DNA (human gene mig-2 plus 3'-flank)
 391550-50-8 391550-54-2, DNA (human cell line KG-1 cDNA) 391550-59-7,
 DNA (human GP36b glycoprotein cDNA) 391550-73-5 391550-75-7
 391551-01-2 391551-07-8, DNA (human clone clone 270-4 cDNA)
 391551-36-3 391551-43-2, DNA (human cell line HeLa S3 cDNA)
 391551-54-5 391551-56-7 391551-91-0, DNA (human oviductal glycoprotein
 cDNA) 391552-21-9, DNA (human gene Eps8 cDNA) 391552-25-3
 391552-27-5, DNA (human Csa-19 cDNA) 391552-40-2 391553-02-9
 391553-41-6 391553-58-5 391553-66-5 391553-67-6, DNA (human gene

HEK8 cDNA) 391553-75-6, DNA (human cdc27 gene) 391553-79-0
 391553-88-1, DNA (human myosin-IC) 391554-14-6, DNA (human clone MN1
 cDNA) 391554-19-1 391554-21-5, DNA (human gene BNIP3 cDNA)
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 cDNA) 391554-44-2, DNA (human cell line COLO 205 cDNA) 391554-68-0
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 391555-28-5, DNA (human clone pKOT161 cDNA) 391555-29-6 391555-44-5
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 cDNA) 391555-54-7, DNA (human cell line KG-1 cDNA) 391555-55-8, DNA
 (human clone pcDNA.HS.2 cDNA) 391556-64-2 391556-66-4, DNA (human
 clone Lutheran) 391556-73-3, DNA (human clone pG77-12 cDNA)
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 391556-92-6, DNA (human gene ANK-3 cDNA) 391556-93-7 391556-94-8, DNA
 (human clone G to O cDNA) 391557-06-5, DNA (human initiation factor 2
 cDNA) 391557-07-6 391557-48-5, DNA (human SURF-1 cDNA) 391557-52-1
 391557-62-3, DNA (human gene E2F-4 cDNA) 391557-77-0 391557-91-8, DNA
 (human gene CPT1) 391560-53-5 391560-56-8 391560-64-8, DNA (human
 clone hTg737 cDNA) 391560-81-9, GenBank X82279 391562-13-3
 391564-21-9, DNA (human clone 3-5 & 7-1) 391564-47-9, DNA (human
 paxillin cDNA) 391565-14-3 391566-19-1 391566-25-9 391568-60-8,
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 cDNA) 391569-86-1, DNA (human clone pHSMP6 SMP-30 cDNA) 391570-28-8
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 cDNA) 391576-47-9 391581-29-6 391581-46-7 391581-52-5
 391581-56-9, DNA (human prostatic cDNA plus flanks) 391581-63-8, DNA
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 cDNA) 391584-79-5 391584-82-0 391584-83-1 391584-97-7, DNA (human
 gene HMGI-C) 391584-98-8, DNA (human blood gene DARC plus flanks)
 391588-46-8, DNA (human gene ST13 cDNA) 391588-47-9 391588-59-3, DNA
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 SCNN1B cDNA) 391763-22-7 391763-24-9, DNA (human gene CYP2A13)
 391763-33-0, DNA (human gene hSRPB8) 391763-34-1 391763-44-3, DNA
 (human clone GT247 cDNA) 391763-46-5 391763-54-5 391765-26-7
 391765-30-3 391765-33-6, DNA (human clone 108448 cDNA) 391765-35-8
 391766-15-7, DNA (human gene SCCA2 cDNA) 391766-16-8 391766-17-9, DNA
 (human gene orf cDNA) 391767-79-6 391767-84-3 391768-57-3
 391769-35-0 391770-17-5 391770-18-6, DNA (human cell line SKBR-3 cDNA)
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 391772-84-2, DNA (human cell line KG-1 cDNA) 391772-90-0 391772-94-4
 391773-74-3 391773-95-8, DNA (human gene creb-rp cDNA) 391774-02-0,
 DNA (human gene UBCH5B cDNA) 391774-05-3 391774-06-4 391774-10-0
 391774-60-0, GenBank U40990 391775-25-0, DNA (human gene CTF1 cDNA)
 391775-31-8, GenBank X91196 391775-77-2 391775-83-0 391775-84-1, DNA
 (human clone A111;A85) 391776-15-1, DNA (human gene acidic calponin

cDNA) 391776-51-5 391777-01-8 391777-02-9 391777-17-6
 391779-93-4 391780-95-3 391780-97-5 391781-88-7 391781-96-7, DNA
 (human gene DSS1 **protein** cDNA) 391782-07-3 391782-13-1
 391782-24-4 391782-26-6 391782-31-3 391782-32-4, GenBank Z49826
 391783-00-9 391783-13-4, DNA (human dynamitin cDNA) 391783-87-2, DNA
 (human gene htMART cDNA) 391783-94-1 391784-77-3, DNA (human gene MPD
protein cDNA) 391784-82-0, DNA (human glutathione synthetase
 cDNA) 391785-32-3, DNA (human gene OC-116KDa cDNA) 391785-36-7, DNA
 (human gene six1 cDNA) 391785-95-8 391785-96-9, DNA (human clone MB4)
 391785-98-1, DNA (human gene CRISP-3 **protein** cDNA)
 391787-70-5, DNA (human **protein** XMP cDNA plus flanks)
 391787-72-7 391787-73-8 391787-88-5, DNA (human clone SFA-1 cDNA)
 391788-30-0, DNA (human gene Diff33 cDNA) 391788-48-0 391788-68-4
 391789-78-9 391789-81-4, DNA (human cell line OsA-Cl cDNA) 391790-49-1
 391791-22-3, DNA (human ryudocan core **protein** gene)
 391791-70-1, DNA (human gene Grb14 cDNA) 391791-87-0, DNA (human gene
 NKCC2 cDNA) 391791-88-1, DNA (human cell line HeLa cell cDNA)
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 pyst2) 391795-85-0, DNA (human Smad1 cDNA) 391795-87-2 391796-80-8
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 KEalpha4.2 cDNA) 391797-58-3, DNA (human clone KBbeta3.2 cDNA)
 391797-69-6, GenBank U35005 391798-12-2, DNA (human AEBP1 cDNA)
 391798-13-3 391798-43-9, DNA (human gene HLA-H cDNA) 391798-44-0, DNA
 (human clone tob4 cDNA)

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific
 tumors)

IT 391799-41-0, DNA (human gene PP2A cDNA) 391800-73-0 391800-83-2
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 cell line KG-1 cDNA) 391804-01-6 391804-02-7 391804-89-0
 391804-94-7 391806-14-7, DNA (human gene MAGE9) 391806-64-7, DNA
 (human gene LPP cDNA) 391807-29-7, DNA (human gene XPF cDNA)
 391807-30-0, DNA (human neutral calponin cDNA) 391807-54-8, DNA (human
 clone D3A cDNA) 391807-57-1 391808-42-7 391808-51-8 391809-32-8,
 DNA (human cell line P39 cDNA) 391809-38-4, DNA (human gene hMAD-3)
 391809-79-3 391810-13-2 391810-62-1, DNA (human synapsin IIb cDNA)
 391810-68-7, DNA (human clone 15B cDNA) 391810-69-8 391811-19-1, DNA
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 cos43) 391811-32-8 391811-33-9, DNA (human gene hBD-1 cDNA)
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 hBRAVO/Nr-CAM) 391811-72-6, DNA (human neogenin cDNA) 391812-49-0
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 391827-16-0 391827-18-2 391827-29-5, DNA (human gene TSG101 cDNA)
 391828-27-6, DNA (human semaphorin E cDNA) 391828-94-7 391829-27-9,

DNA (human gene SUPT5H cDNA) 391830-45-8, DNA (human gene MIP-3β cDNA) 391830-79-8 391831-34-8, DNA (human cell line CEM cells cDNA) 391831-38-2 391831-69-9 391831-70-2, DNA (human A28-RGS14p cDNA) 391831-77-9, DNA (human cell line LIM1215 cDNA) 391831-82-6 391831-88-2 391831-89-3, DNA (human gene HTP-1 cDNA) 391832-05-6 391832-06-7, DNA (human gene VRK2 cDNA) 391832-46-5, DNA (human gene FMO2) 391832-48-7 391832-75-0, DNA (human nucleolar **protein** p40 cDNA) 391832-90-9 391833-04-8, DNA (human clone RES4-22B cDNA) 391833-06-0, DNA (human clone RES4-26 cDNA) 391833-38-8, DNA (human glia maturation factor cDNA) 391833-54-8, GenBank Y09561 391833-55-9 391833-60-6 391833-85-5 391834-62-1 391835-20-4 391835-95-3, DNA (human clone pHKII-3 cDNA) 391835-97-5 391835-98-6, GenBank X99886 391836-00-3 391836-02-5 391836-06-9, DNA (human clone HP01049 cDNA) 391836-14-9 391836-20-7, DNA (human clone 23907 cDNA) 391836-80-9, DNA (human gene CDS cDNA) 391836-81-0, DNA (human HS1 binding **protein** cDNA) 391836-99-0 391837-13-1, DNA (human gene cul-2 cDNA) 391838-09-8, DNA (human clone 31293 cDNA) 391838-71-4 391839-11-5 391839-14-8 391839-27-3, DNA (human HYA22 cDNA) 391839-32-0 391840-69-0, DNA (human gene DRADA2b cDNA) 391840-75-8 391840-93-0, DNA (human pyridoxal **kinase** cDNA) 391840-94-1 391841-52-4 391841-59-1, DNA (human clone ATCC 353794 cDNA) 391841-60-4, DNA (human gene UCPH cDNA) 391841-63-7 391842-02-7 391842-07-2 391842-29-8 391842-52-7 391842-76-5 391843-15-5 391843-44-0 391844-43-2 391844-49-8, DNA (human gene NPT4 cDNA) 391844-53-4, DNA (human gene BTF2) 391844-55-6, DNA (human gene BTF5 cDNA) 391844-65-8 391845-63-9, DNA (human bikunin cDNA) 391845-65-1, DNA (human gene OPG cDNA) 391845-67-3, GenBank U96115 391846-71-2 391846-81-4 391847-29-3 391847-56-6, DNA (human Hlark cDNA) 391848-63-8, DNA (human clone R31396-F25451-R31076) 391849-10-8 391849-11-9 391850-10-5 391851-20-0 391851-69-7 391851-70-0 391852-01-0 391852-23-6 391853-04-6 391853-23-9, DNA (human gene HE6 cDNA) 391853-60-4 391854-27-6 391854-48-1 391854-67-4 391854-98-1, DNA (human transmembrane **protein** cDNA) 391854-99-2, DNA (human **protein** IPL cDNA plus flanks) 391856-09-0 391856-28-3 391856-63-6 391857-86-6 391882-57-3 391983-35-0 391984-34-2 391984-57-9 391984-90-0 391985-36-7 391985-53-8 391985-57-2 391985-88-9 391986-15-5 391986-21-3 391986-25-7 391987-11-4 391987-27-2 391987-58-9 391987-78-3 391988-89-9, DNA (human gene BCL9) 391989-61-0 391989-66-5 391989-94-9 391990-27-5 391990-29-7 391990-30-0 391991-74-5 391992-10-2 391992-17-9, DNA (human clone genomic t083) 391995-75-8 391997-52-7 391997-75-4 391998-54-2 391998-85-9 391999-44-3 391999-46-5 392000-55-4 392000-73-6 392002-24-3 392003-69-9 392003-98-4, DNA (human gene hPARG cDNA) 392004-66-9 392004-89-6 392005-83-3 392007-47-5, DNA (human gene hCTR1 cDNA) 392009-64-2, DNA (human clone ICRFc103G087) 392009-77-7, DNA (human cell line HeLa S3 cDNA) 392010-66-1 392011-03-9, DNA (human gene OB-RGRP cDNA) 392011-08-4 392011-10-8, DNA (human gene selW cDNA) 392012-11-2 392012-20-3 392012-21-4, DNA (human DEC1 cDNA) 392013-07-9 392013-09-1 392015-53-1, GenBank AJ000099 392015-75-7

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(nucleotide sequence; expressed gene sets as markers for specific tumors)

IT 392017-13-9 392019-08-8 392020-66-5 392069-90-8, DNA (human αB-crystallin cDNA) 392109-74-9 392110-12-2, DNA (human gene antiquitin cDNA) 392185-63-6, DNA (human glutaminyl-tRNA synthetase) 392186-08-2, DNA (human serotonin **receptor** gene) 392192-85-7 392193-09-8 392193-15-6, DNA (human gene ATPL cDNA) 392193-18-9 392193-30-5, DNA (human gene CGM7) 392193-44-1 392193-62-3, GenBank

M69225 392193-80-5 392194-85-3 392195-25-4 392195-88-9
 392198-67-3 392198-83-3, DNA (human clone hg00112s1 cDNA) 392198-94-6
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 cDNA) 392204-45-4 392204-50-1 392204-58-9 392204-69-2
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 392207-45-3, DNA (human gene IGFBP6 cDNA) 392207-71-5, DNA (human clone
 hh00141s1 cDNA) 392208-97-8, DNA (human clone lambdaF2.6 cDNA)
 392209-02-8, DNA (human gene IGFBP4 cDNA) 392209-77-7, DNA (human clone
 HH0733 cDNA) 392213-11-5 392213-13-7 392213-15-9, DNA (human gene
 IGF1R cDNA) 392214-43-6, GenBank M31776 392214-46-9, GenBank J00212
 392214-97-0, GenBank M88579 398095-16-4, DNA (human clone lambda hK1R
 cDNA) 398095-28-8 398095-31-3, DNA (human preproinsulin gene)
 398095-63-1, DNA (human α -tubulin gene) 398096-95-2, DNA (human
 gene ACY1 **protein** cDNA) 398109-70-1, GenBank D21241
 398109-87-0 398110-85-5, DNA (human gene PKD1 cDNA) 398113-74-1, DNA
 (human gene FXR2 cDNA) 398113-83-2, DNA (human cell line W138 cell line
) 398114-34-6, DNA (human Smad6 cDNA) 398425-27-9, DNA (human gene
 IL1R) 398425-36-0 398425-42-8 398425-46-2, DNA (human gene NAGA
 cDNA) 398425-50-8, GenBank M20778 398425-55-3, DNA (human gene GRP
 cDNA) 398425-70-2 398425-86-0, DNA (human cell line U118-MG cDNA)
 398426-03-4, DNA (human gene STS cDNA) 398426-09-0 398426-14-7, DNA
 (human gene BDH cDNA) 398435-07-9 398448-49-2
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (nucleotide sequence; expressed gene sets as markers for specific
 tumors)

L40 ANSWER 39 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:912134 HCAPLUS
 DN 137:61092
 ED Entered STN: 18 Dec 2001
 TI MCF-10A-NeoST: a new cell system for studying cell-ECM and cell-cell
 interactions in breast cancer
 AU Zantek, Nicole Dodge; Walker-Daniels, Jennifer; Stewart, Jane; Hansen,
 Rhonda K.; Robinson, Daniel; Miao, Hui; Wang, Bingcheng; Kung, Hsing-Jien;
 Bissell, Mina J.; **Kinch, Michael S.**
 CS Department of Basic Medical Sciences, Purdue University, West Lafayette,
 IN, 47905, USA
 SO Clinical Cancer Research (2001), 7(11), 3640-3648
 CODEN: CCREF4; ISSN: 1078-0432
 PB American Association for Cancer Research
 DT Journal
 LA English
 CC 14-1 (Mammalian Pathological Biochemistry)
 AB There is a continuing need for genetically matched cell systems to model
 cellular behaviors that are frequently observed in aggressive breast cancers.
 We report here the isolation and initial characterization of a
 spontaneously arising variant of MCF-10A cells, NeoST, which provides a
 new model to study cell adhesion and signal transduction in breast cancer.
 NeoST cells recapitulate important biol. and biochem. features of
 metastatic breast cancer, including anchorage-independent growth,
 invasiveness in three-dimensional reconstituted membranes, loss of
 E-cadherin expression, and increased **tyrosine kinase**
 activity. A comprehensive anal. of **tyrosine kinase**
 expression revealed overexpression or functional activation of the Axl,
 FAK, and **EphA2 tyrosine kinases** in
 transformed MCF-10A cells. MCF-10A and these new derivs. provide a
 genetically matched model to study defects in cell adhesion and signaling
 that are relevant to cellular behaviors that often typify aggressive
 breast cancer cells.

ST breast cancer disease model MCF10A NeoST; cell adhesion breast cancer disease model; signal transduction breast cancer disease model

IT Cadherins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (E-; MCF-10A-NeoST: new cell system for studying cell-ECM and cell-cell interaction in breast cancer)

IT Adhesion, biological
 Disease models
 Extracellular matrix
 Mammary gland, neoplasm
 Signal transduction, biological
 (MCF-10A-NeoST: new cell system for studying cell-ECM and cell-cell interaction in breast cancer)

IT Growth, animal
 (anchorage-independent; MCF-10A-NeoST: new cell system for studying cell-ECM and cell-cell interaction in breast cancer)

IT Neoplasm
 (metastasis; MCF-10A-NeoST: new cell system for studying cell-ECM and cell-cell interaction in breast cancer)

IT 80449-02-1, **Tyrosine kinase** 144114-16-9, **Focal adhesion kinase** 149433-91-0, **EphA2 receptor tyrosine kinase** 153190-63-7, **Axl receptor tyrosine kinase**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (MCF-10A-NeoST: new cell system for studying cell-ECM and cell-cell interaction in breast cancer)

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L40 ANSWER 40 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:899097 HCAPLUS

DN 136:260866

ED Entered STN: 13 Dec 2001

TI Reduced expression of **Ephrin A1 (EFNA1) inhibits**
three-dimensional growth of HT29 colon carcinoma cells

AU Potla, Lyka; Boghaert, Erwin R.; Armellino, Douglas; Frost, Philip; Damle,
Nitin K.

CS Oncology/Immunology Division, Wyeth-Ayerst Research, Pearl River, NY,
10965-1299, USA

SO Cancer Letters (Shannon, Ireland) (2002), 175(2), 187-195
CODEN: CALEDQ; ISSN: 0304-3835

PB Elsevier Science Ireland Ltd.

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB **Ephrin A1 (EFNA1)** is a GPI-anchored ligand that preferentially binds to the **receptor tyrosine kinase, EphA2**. **EphA2** is over-expressed in malignant melanocytes and in prostate carcinoma cells. Whether activation of **EphA2** by **EFN-A1** is involved in aberrant growth or differentiation of cancer cells is currently not known. We studied the effect of reducing **EFNA1** on the growth of a colon carcinoma cell line (HT29). HT29 cells were transfected with **EFNA1** antisense yielding clones that expressed less than 25% of **EFNA1** found in vector controls. **EFNA1**-antisense transfectants grew slower than controls when cultured as three-dimensional spheroids. When grown as monolayers, the transfectants had a similar doubling time of

the vector controls. These results indicated that autocrine stimulation of **Epha2** by **EFNA1** could trigger an indirect growth signal by overcoming 'contact inhibition'. Following addition of **EFNA1-Fc** to HT29 cells, **tyrosine** hyperphosphorylation of **Epha2**, **E-cadherin**, and β -catenin were observed. Because the function of **E-cadherin** is associated with contact inhibition of HT29 cells, phosphorylation of **E-cadherin** and β -catenin by activation of **Epha1** is one possible mechanism by which HT29 cells alleviate contact inhibition.

- ST **ephrinA1** **EFNA1** colon carcinoma; cadherin catenin phosphorylation cell proliferation
- IT Cadherins
 - RL: BSU (Biological study, unclassified); BIOL (Biological study) (E-; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT Intestine, neoplasm
 - (colon, carcinoma; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT Carcinoma
 - (colon; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT **Proteins**
 - RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study) (**ephrin-A1**; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT Cell proliferation
 - Human (**ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT Phosphorylation, biological
 - (protein; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT Catenins
 - RL: BSU (Biological study, unclassified); BIOL (Biological study) (β -; **ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)
- IT 149433-91-0, **Epha2** receptor tyrosine kinase
 - RL: BSU (Biological study, unclassified); BIOL (Biological study) (**ephrinA1**-induced phosphorylation of cadherin-E, β -catenin, and **Epha2** in association with cell proliferation of human colon carcinoma)

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L40 ANSWER 41 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:779727 HCAPLUS

DN 136:52021

ED Entered STN: 26 Oct 2001

TI **Receptor tyrosine kinase EphA2** is regulated by p53-family **proteins** and induces apoptosis

AU Dohn, Michael; Jiang, Jieyuan; Chen, Xinbin

CS Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, GA, 30912, USA

SO Oncogene (2001), 20(45), 6503-6515

CODEN: ONCNES; ISSN: 0950-9232

PB Nature Publishing Group

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 2, 3

AB The p53 tumor suppressor **protein** is mutated in more than 50% of all human cancers, which makes the study of its functions and activities critical for the understanding and management of cancer. In response to cellular stresses, p53 is activated and can mediate cell cycle arrest and/or apoptosis via the upregulation of numerous target genes. Here, the authors have identified **EphA2** as a target gene of the p53 family, i.e., p53, p73, and p63. The authors also found that an increase of **EphA2** transcript levels correlated with an increase of **EphA2 protein** expression, and induction of **EphA2** in response to DNA damage corresponded with p53 activation. Furthermore, the authors identified a p53 response element located within the **EphA2** promoter that is responsive to wild-type p53, p73, and p63, but not mutant p53. Interestingly, the ligand for **EphA2**, **ephrin-A1**, is also regulated by p53. **EphA2** and **ephrin-A1** are members of the **Eph** family of **receptor tyrosine kinases** and ligands, which are implicated in a number of developmental processes. To analyze the role of **EphA2** in p53-mediated tumor suppression, the authors generated stable cell lines capable of expressing exogenous **EphA2** in a tetracycline-repressible system. The authors found that **EphA2** expression resulted in an increase in apoptosis. Thus, the authors hypothesize that the activated **EphA2** may serve to impair anti-apoptotic signaling, perhaps by disrupting focal adhesions and thereby sensitize cells to pro-apoptotic stimuli.

ST **receptor tyrosine kinase EphA2** p53

family apoptosis tumor suppression

IT **Tyrosine kinase receptors**

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(**EphA2**; **receptor tyrosine kinase**)

- Epha2** is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT Gene, animal
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (**Epha2**; **receptor tyrosine kinase**
Epha2 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT DNA
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
 (damage; **receptor tyrosine kinase**
Epha2 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression and DNA damage-induced **Epha2** phosphorylation)
- IT Growth factors, animal
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**ephrin-A1**; **receptor tyrosine kinase**
kinase Epha2 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression and)
- IT Transcription factors
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (p63; **receptor tyrosine kinase**
Epha2 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT Transcription factors
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (p73; **receptor tyrosine kinase**
Epha2 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT Animal cell line
 Apoptosis
 Human
 Neoplasm
 Transcription, genetic
 (**receptor tyrosine kinase Epha2**
 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT mRNA
 p53 (**protein**)
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (**receptor tyrosine kinase Epha2**
 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)
- IT Phosphorylation, biological
 (**receptor tyrosine kinase Epha2**
 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression and DNA damage-induced **Epha2** phosphorylation)
- IT Promoter (genetic element)
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (**receptor tyrosine kinase Epha2**
 is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression and p53-responsive element in **Epha2** promoter)
- IT Genetic element
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(tumor antigen p53-responsive element; **receptor tyrosine kinase EphA2** is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression and p53-responsive element in **EphA2** promoter)

IT 149433-91-0, **EphA2 receptor tyrosine kinase**

RL: BSU (Biological study, unclassified); BIOL (Biological study) (**receptor tyrosine kinase EphA2** is regulated by p53-family **proteins** and induces apoptosis in relation to tumor suppression)

RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L40 ANSWER 42 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:721437 HCAPLUS

DN 135:272896

ED Entered STN: 03 Oct 2001

TI Preparation of substituted 3-cyanoquinolines as **protein tyrosine kinases inhibitors**

IN Wissner, Allan; Tsou, Hwei-ru; Berger, Dan M.; Floyd, Middleton B., Jr.; Hamann, Philip R.; Zhang, Nan; Frost, Philip

PA American Cyanamid Company, USA

SO U.S., 57 pp., Cont. of U.S. Ser. No. 405,868, abandoned.
CODEN: USXXAM

DT Patent

LA English

IC ICM A61K031-47

ICS C07D215-44

INCL 514313000

CC 27-17 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 63

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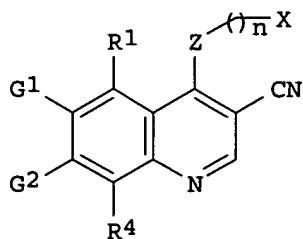
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	US 1999-405868	B1	19990924	<--	

CLASS

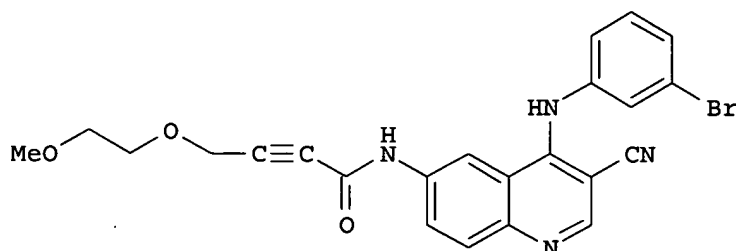
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6297258	ICM	A61K031-47
	ICS	C07D215-44
	INCL	514313000
US 6297258	NCL	514/313.000; 514/151.000; 514/228.200; 514/235.200; 514/252.180; 514/253.060; 514/253.070; 514/278.000; 514/312.000; 544/058.600; 544/128.000; 544/328.000; 544/331.000; 544/363.000; 546/019.000; 546/153.000; 546/159.000; 546/160.000; 546/171.000
	ECLA	C07D215/44

OS MARPAT 135:272896 <--

GI



I



II

AB Title compds. I [X = cycloalkyl, pyridinyl, pyrimidinyl, etc.; Z = NH, O, S, NR; R = alkyl; G1, G2, R1, R4 = H, halo, alkyl, alkynyl, etc.; n = 0, 1], **protein tyrosine kinase inhibitors**, were prepared. Examples included 189 compds. and 6 bioassays. E.g., II was prepared by coupling the 4-(2-methoxyethoxy)but-2-ynoic acid with 6-amino-3-cyano-4-[(3-bromophenyl)amino]quinoline (i-BuOCOC1, N-methylmorpholine, THF, 0°C, 3 h) in 32% yield after purification. II had IC50 = 0.006 µM for EGFR **kinase**. I are useful as antineoplastic agents.

ST cyanoquinoline prepn **protein tyrosine kinase inhibitor**; quinoline cyano prepn **protein tyrosine kinase inhibitor**; antineoplastic agent cyanoquinoline prepn

IT Antitumor agents

(preparation of cyanoquinolines as antineoplastic agents)

IT 79079-06-4, Epidermal growth factor **receptor kinase**

137632-08-7, ERK 2 **kinase** 142805-58-1, MAPKK

149433-91-0, **Eck kinase** 150977-45-0, KDR

receptor tyrosine kinase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(preparation of cyanoquinolines as antineoplastic agents)

IT 198149-15-4P 263148-94-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of cyanoquinolines as **protein tyrosine kinase inhibitors**)

IT	2103-50-6P	214476-89-8P	214476-99-0P	263148-87-4P	263148-88-5P
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	263148-95-4P	263148-98-7P	263149-00-4P	263149-01-5P	263149-02-6P
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	263149-09-3P	263149-10-6P	263149-11-7P	263149-12-8P	263149-13-9P
	263149-14-0P	263149-16-2P	263149-17-3P	263149-18-4P	263149-19-5P
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263150-32-9P	263150-34-1P			

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of cyanoquinolines as **protein tyrosine kinase inhibitors**)

IT 94-05-3 97-52-9, 2-Methoxy-4-nitroaniline 98-16-8, 3-Trifluoromethylaniline 99-52-5 100-01-6, 4-Nitroaniline, reactions 103-76-4, 4-(2-Hydroxyethyl)piperazine 106-40-1, 4-Bromoaniline 106-96-7, Propargyl bromide 107-19-7, Propargyl alcohol 107-30-2, Chloromethyl methyl ether 107-94-8, 3-Chloropropionic acid 108-42-9, 3-Chloroaniline 108-44-1, 3-Toluidine, reactions 109-01-3, 1-Methylpiperazine 109-83-1, 2-(Methylamino)ethanol 109-86-4, 2-Methoxyethanol 110-97-4, 1,1'-Iminodi-2-propanol 111-42-2, Bis(2-hydroxyethyl)amine, reactions 111-95-5 123-90-0, Thiomorpholine 124-02-7, Diallylamine 177-11-7, 1,4-Dioxo-8-azaspiro[4.5]decane 367-21-5, 3-Chloro-4-fluoroaniline 504-78-9, Thiazolidine 536-90-3, 3-Methoxyaniline 590-93-2, 2-Butynoic acid 591-19-5, 3-Bromoaniline 615-55-4, 3,4-Dibromoaniline 621-33-0, 3-Ethoxyaniline 624-65-7, Propargyl chloride 626-01-7, 3-Iodoaniline 656-64-4, 3-Bromo-4-fluoroaniline 693-95-8, 4-Methylthiazole 766-17-6, cis-2,6-Dimethylpiperidine 1117-71-1, Methyl 4-bromocrotonate 2237-30-1, 3-Aminobenzonitrile 2629-72-3, 3-(4-Pyridyl)-1-propanol 2799-21-5, (R)-3-Pyrrolidinol 2835-95-2, 3-Hydroxy-4-methylaniline 3378-71-0, 2,5-Dimethylpyrrolidine 3433-37-2, 2-Hydroxymethylpiperidine 3581-89-3, 5-Methylthiazole 3863-11-4, 3,4-Difluoroaniline 4606-65-9, 3-Hydroxymethylpiperidine 4747-21-1, Isopropylmethylamine 5231-87-8 5344-27-4, 2-(4-Pyridyl)ethanol 5382-16-1, 4-Hydroxypiperidine 6139-84-0, 4-Chlorobutanal 7223-38-3, 1-Dimethylamino-2-propyne 32631-26-8 38256-93-8 41775-76-2, 1,4,7-Trioxa-10-azacyclododecane 41979-39-9, 4-Piperidone hydrochloride 51544-74-2, 4-Bromocrotonyl chloride 54060-30-9, 3-Ethynylaniline 57366-77-5 57946-56-2, 4-Chloro-2-fluoroaniline 61032-42-6 63126-47-6 74024-49-0 214470-55-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of cyanoquinolines as **protein tyrosine kinase inhibitors**)

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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation of cyanoquinolines as **protein tyrosine
kinase inhibitors**)

IT 214485-81-1P 214487-06-6P 263148-96-5P 263148-97-6P 263148-99-8P
263150-36-3P 263150-38-5P 263150-40-9P 263150-42-1P 263150-44-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyanoquinolines as **protein tyrosine
kinase inhibitors**)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (2) Anon; EP 0566226 1993 HCAPLUS
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- (4) Anon; EP 0635498 1995 HCAPLUS
- (5) Anon; EP 0635507 1995 HCAPLUS
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L40 ANSWER 43 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:672213 HCAPLUS

DN 135:226901

ED Entered STN: 13 Sep 2001

TI Preparation of 3-cyanoquinolines as **protein tyrosine
kinase inhibitors**

IN Wissner, Allan; Tsou, Hwei-ru; Berger, Dan M.; Floyd, Middleton B., Jr.;

PA Hamann, Philip R.; Zhang, Nan; Salvati, Mark E.; Frost, Philip
 SO American Cyanamid Company, USA
 U.S., 68 pp.
 CODEN: USXXAM

DT Patent

LA English

IC ICM A61K031-47

ICS C07D213-68; C07D213-74

INCL 514313000

CC 27-17 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1

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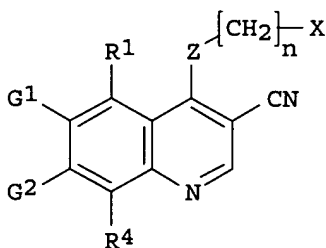
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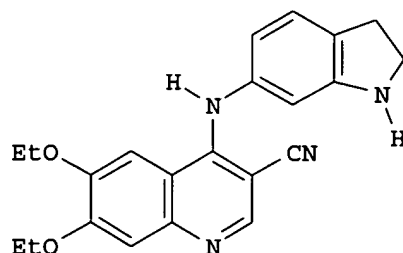
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	ECLA	C07D215/48; C07D401/12+215+209C; C07D401/12+215+211; C07D401/12+233+215; C07D401/12+231+215; C07D401/12+235C+215; C07D417/12+277B+215

OS MARPAT 135:226901

GI



I



II

AB The title compds. [I; X = (un)substituted bicyclic aryl or bicyclic heteroaryl ring system of 8-12 atoms where the bicyclic heteroaryl ring contains 1-4 heteroatoms selected from N, O and S; Z = (un)substituted NH, O, S; G1, G2, R1, R4 = H, halo, alkyl, etc.; n = 0-1], useful as antineoplastic agents and in the treatment of polycystic kidney disease, were prepared. Thus, Me 2-amino-4,5-diethoxybenzoate was N-condensed with HCNMe2/POCl3 and the product cyclocondensed with MeCN to give, after POCl3 treatment, 4-chloro-6,7-diethoxyquinoline-3-carbonitrile which was aminated by 6-aminoindoline to give title compd II. Data for biol. activity (inhibition of EGFR kinase, KDR, Eck, Mek-Erk) of I were given.

ST cyanoquinoline prepn protein tyrosine kinase

inhibitor antitumor; polycystic kidney disease cyanoquinoline
 prepn; mitogen activated **protein kinase** ERK
inhibitor cyanoquinoline prepn; EGFR **kinase**
inhibitor cyanoquinoline prepn; KDR **protein**
kinase inhibitor cyanoquinoline prepn; epithelial cell
kinase eck inhibitor cyanoquinoline prepn

IT Kidney, disease
 (polycystic, treatment of polycystic kidney disease; preparation of
 3-cyanoquinolines as **protein tyrosine**
kinase inhibitors)

IT Antitumor agents
 (preparation of 3-cyanoquinolines as **protein tyrosine**
kinase inhibitors)

IT 288-32-4, Imidazole, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (Growth factor **receptors** preparation of 3-cyanoquinolines as
protein tyrosine kinase inhibitors
)

IT 79079-06-4, EGFR **kinase**
 RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL
 (Biological study)
 (mediated disorders; treatment; preparation of 3-cyanoquinolines as
protein tyrosine kinase inhibitors
)

IT 137632-08-7
 RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL
 (Biological study)
 (mitogen-activated **protein kinase** (Mek-Erk); preparation
 of 3-cyanoquinolines as **protein tyrosine**
kinase inhibitors)

IT

263169-81-9P	263169-82-0P	263169-83-1P	263169-84-2P	263169-85-3P
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263171-06-8P	263171-07-9P	263171-08-0P	263171-09-1P	263171-10-4P
263171-11-5P	263171-12-6P	263171-13-7P	263171-14-8P	263171-15-9P
263171-16-0P	263171-17-1P	263171-18-2P	263171-19-3P	263171-20-6P
263171-21-7P	263171-22-8P	263171-23-9P	263171-24-0P	263171-25-1P
263171-26-2P	263171-27-3P	263171-28-4P	263171-29-5P	263171-30-8P
263171-31-9P	263171-32-0P	263171-33-1P	263171-34-2P	263171-35-3P
263171-36-4P	263171-37-5P	263171-38-6P	263171-39-7P	263171-40-0P

263171-41-1P 263171-42-2P 263171-43-3P 263171-44-4P 263171-45-5P
 263171-46-6P 263171-47-7P 263171-48-8P 263171-49-9P 263171-50-2P
 263171-51-3P 263171-52-4P 263171-53-5P 263171-54-6P 263171-55-7P
 263171-56-8P 263171-57-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of 3-cyanoquinolines as **protein tyrosine kinase inhibitors**)

IT 142243-02-5 149433-91-0 150977-45-0

RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)

(preparation of 3-cyanoquinolines as **protein tyrosine kinase inhibitors**)

IT 59-31-4, Carbostyryl 87-13-8, Diethyl ethoxymethylenemalonate 91-21-4, 1,2,3,4-Tetrahydroisoquinoline 94-05-3, Ethyl ethoxymethylenecyanoacetate 97-52-9, 2-Methoxy-4-nitroaniline 99-52-5 100-01-6, 4-Nitroaniline, reactions 103-76-4, 1-(2-Hydroxyethyl)piperazine 106-96-7, Propargyl bromide 107-19-7, Propargyl alcohol 109-01-3, 1-Methylpiperazine 109-86-4, 2-Methoxyethanol 110-91-8, Morpholine, reactions 111-42-2, Diethanolamine, reactions 111-95-5 123-90-0, Thiomorpholine 134-20-3, Methyl anthranilate 177-11-7, 1,4-Dioxo-8-azaspiro[4,5]decane 350-30-1, 3-Chloro-4-fluoronitrobenzene 533-30-2, 6-Aminobenzothiazole 536-90-3, 3-Methoxyaniline 578-66-5, 8-Aminoquinoline 580-15-4, 6-Aminoquinoline 611-34-7, 5-Aminoquinoline 621-33-0, 3-Ethoxyaniline 624-65-7, Propargyl chloride 632-02-0, 3-Chloropropyl p-toluenesulfonate 645-08-9, 3-Hydroxy-4-methoxybenzoic acid 934-22-5, 5-Aminobenzimidazole 1117-71-1, Methyl 4-bromocrotonate 1125-60-6, 5-Aminoisoquinoline 2217-41-6, 1-Amino-5,6,7,8-tetrahydronaphthalene 2629-72-3, 4-(3-Hydroxypropyl)pyridine 3177-80-8, 2-Amino-3-methoxybenzoic acid 3325-11-9, 5-Aminobenzotriazole 3943-74-6, Methyl 4-hydroxy-3-methoxybenzoate 4442-54-0 4684-12-2, 1-Amino-4-chloronaphthalene 4747-21-1, Isopropylmethylamine 5035-82-5, Methyl 2-amino-3,4,5-trimethoxybenzoate 5192-03-0, 5-Aminoindole 5192-23-4, 4-Aminoindole 5318-27-4, 6-Aminoindole 5382-16-1, 4-Hydroxypiperidine 5685-05-2, 2-Mercaptobenzothiazole 6315-89-5, 4-Aminoveratrole 6967-12-0, 6-Aminoindazole 7223-38-3, N,N-Dimethyl-2-propynylamine 7357-67-7, 4-(3-Chloropropyl)morpholine 13669-62-0, 4-Chloro-6-methoxyquinoline-3-carbonitrile 14268-66-7, 3,4-Methylenedioxyaniline 19335-11-6, 5-Aminoindazole 20197-71-1, Methyl 2-amino-4,5-diethoxybenzoate 20503-40-6, 6-Amino-1,1-dioxobenzo[b]thiophene 21302-43-2, 5-Amino-8-hydroxyquinoline dihydrochloride 22013-33-8, 6-Amino-1,4-benzodioxane 24425-40-9 26093-31-2, 7-Amino-4-methylcoumarin 28228-73-1, 6-Aminoindoline dihydrochloride 28782-50-5, 4-Aminophthalhydrazide 29043-48-9, 5-Amino-2-methyl-1H-benzimidazole 32770-99-3, 5-Amino-2-methylbenzothiazole dihydrochloride 38256-93-8, N-Methyl-2-methoxyethylamine 42533-63-1, 4-Bromomethyl-3-chloro-1-nitrobenzene 50472-10-1, 2-Amino-3,6-dimethoxybenzoic acid 56354-98-4, 6-Amino-2-benzothiazolinone 57319-65-0, 6-Aminophthalide 57366-77-5 61032-42-6, Methyl 2-amino-4-benzoyloxy-5-methoxybenzoate 63126-47-6, (S)-2-Methoxymethylpyrrolidine 69975-65-1, 6-Amino-1-indanone 133303-88-5 169037-24-5 179688-27-8, Ethyl 2-amino-4,5-bis(2-methoxyethoxy)benzoate 263171-68-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of 3-cyanoquinolines as **protein tyrosine kinase inhibitors**)

IT 2286-55-7P 2458-24-4P 3535-24-8P 6702-50-7P, Methyl isovanillate 13280-03-0P 13436-14-1P 20197-75-5P 20197-76-6P 20629-35-0P 26893-14-1P 27333-44-4P 45813-02-3P 50413-49-5P 52791-03-4P

61338-35-0P	71083-59-5P	71083-64-2P	71083-71-1P	73387-74-3P
97966-31-9P	111627-40-8P	113290-32-7P	118764-05-9P	198149-15-4P
214470-27-6P	214470-33-4P	214470-35-6P	214470-37-8P	214470-52-7P
214470-55-0P	214470-56-1P	214470-57-2P	214470-58-3P	214470-59-4P
214470-60-7P	214470-61-8P	214470-66-3P	214470-68-5P	214470-72-1P
214470-75-4P	214470-78-7P	214470-85-6P	214470-90-3P	214471-15-5P
214471-46-2P	214471-57-5P	214472-17-0P	214472-37-4P	214472-41-0P
214472-56-7P	214475-83-9P	214475-85-1P	214475-98-6P	214475-99-7P
214476-00-3P	214476-04-7P	214476-07-0P	214476-08-1P	214476-09-2P
214476-14-9P	214476-23-0P	214476-46-7P	214476-63-8P	214476-65-0P
214476-68-3P	214476-69-4P	214476-70-7P	214476-71-8P	214476-77-4P
214476-78-5P	214476-89-8P	214476-99-0P	214487-27-1P	220699-97-8P
220699-98-9P	220699-99-0P	220700-00-5P	220700-02-7P	220700-03-8P
220700-04-9P	220700-05-0P	263148-94-3P	263148-96-5P	263148-97-6P
263149-09-3P	263149-10-6P	263149-11-7P	263171-58-0P	263171-59-1P
263171-60-4P	263171-61-5P	263171-62-6P	263171-63-7P	263171-64-8P
263171-65-9P	263171-66-0P	263171-67-1P		

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of 3-cyanoquinolines as **protein tyrosine kinase inhibitors**)

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L40 ANSWER 44 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:310060 HCAPLUS
DN 135:74919
ED Entered STN: 02 May 2001
TI Molecular regulation of tumor cell vasculogenic mimicry by
tyrosine phosphorylation: role of epithelial cell kinase
(**Eck/EphA2**)
AU Hess, Angela R.; Seftor, Elisabeth A.; Gardner, Lynn M. G.; Carles-Kinch,
Kelly; Schneider, Galen B.; Seftor, Richard E. B.; **Kinch, Michael**
S.; Hendrix, Mary J. C.
CS Department of Anatomy and Cell Biology, University of Iowa College of
Dentistry, Iowa City, IA, 52242-1109, USA
SO Cancer Research (2001), 61(8), 3250-3255
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 2
AB During embryogenesis, blood vessels are formed initially by the process of
vasculogenesis, the in situ differentiation of mesenchymal cells into
endothelial cells, which form a primitive, patterned vasculogenic network.
This is followed by angiogenesis, the sprouting of new vessels from
pre-existing vasculature, to yield a more refined microcirculation.
However, we and our collaborators have recently described a process termed
"vasculogenic mimicry," which consists of the formation of patterned,
tubular networks by aggressive melanoma tumor cells (in three-dimensional
cultures in vitro), that mimics endothelial-formed vasculogenic networks
and correlates with poor clin. prognosis in patients. Previous microarray
anal. from our laboratory comparing the highly aggressive vs. the poorly
aggressive melanoma cells revealed a significant increased expression of
tyrosine kinases associated with the aggressive melanoma
phenotype. Because of the important role of **protein**
tyrosine kinases in phosphorylating various signal
transduction **proteins** that are critical for many cellular processes
(e.g., cell adhesion, migration, and invasion), we examined whether
protein tyrosine kinases are involved in
melanoma vasculogenic mimicry. Immunofluorescence anal. of aggressive
melanoma cells forming tubular networks in vitro showed that
tyrosine phosphorylation activity colocalized specifically within
areas of tubular networks formation. A **phosphotyrosine** profile
of the aggressive melanoma cells capable of forming tubular networks
indicated differences in **tyrosine** phosphorylated
proteins compared with the poorly aggressive melanoma cells
(incapable of forming tubular networks). Most notably, we identified
epithelial cell **kinase (EphA2)** as being one
receptor tyrosine kinase expressed and
phosphorylated exclusively in the aggressive metastatic melanoma cells.
Furthermore, general inhibitors of **protein tyrosine**
kinases hindered tube formation, and transient knockout of
EphA2 abrogated the ability of tumor cells to form tubular
structures. These results suggest that **protein tyrosine**
kinases, particularly **EphA2**, are involved in the
formation of tubular networks by aggressive melanoma tumor cells in vitro,
which may represent a novel therapeutic target for further clin.
investigation.
ST **EphA2 tyrosine kinase** phosphorylation uveal
melanoma angiogenesis
IT Liver, neoplasm

(metastasis; **Eck/EphA2 kinase** in mol. regulation of melanoma vasculogenic mimicry by **tyrosine phosphorylation**)

IT Phosphorylation, biological
(**protein; Eck/EphA2 kinase** in mol. regulation of melanoma vasculogenic mimicry by **tyrosine phosphorylation**)

IT Eye, neoplasm
(uvea, melanoma, metastasis; **Eck/EphA2 kinase** in mol. regulation of melanoma vasculogenic mimicry by **tyrosine phosphorylation**)

IT Angiogenesis
(vasculogenic mimicry; **Eck/EphA2 kinase** in mol. regulation of melanoma vasculogenic mimicry by **tyrosine phosphorylation**)

IT 80449-02-1, **Protein tyrosine kinase**
149433-91-0, **EphA2 receptor tyrosine kinase**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**Eck/EphA2 kinase** in mol. regulation of melanoma vasculogenic mimicry by **tyrosine phosphorylation**)

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L40 ANSWER 45 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:227357 HCAPLUS

DN 135:3808

ED Entered STN: 30 Mar 2001

TI **EphA2** overexpression causes tumorigenesis of mammary epithelial cells

AU Zelinski, Daniel P.; Zantek, Nicole Dodge; Stewart, Jane C.; Irizarry, Armando R.; **Kinch, Michael S.**

CS Department of Basic Medical Sciences, Purdue University, West Lafayette, IN, 47907-1246, USA

SO Cancer Research (2001), 61(5), 2301-2306
CODEN: CNREA8; ISSN: 0008-5472

PB American Association for Cancer Research

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB Elevated levels of **protein tyrosine** phosphorylation contribute to a malignant phenotype, although the **tyrosine kinases** that are responsible for this signaling remain largely unknown. Here we report increased levels of the **EphA2 (ECK) protein tyrosine kinase** in clin. specimens and cell models of breast cancer. We also show that **EphA2** overexpression is sufficient to confer malignant transformation and tumorigenic potential on nontransformed (MCF-10A) mammary epithelial cells. The transforming capacity of **EphA2** is related to the failure of **EphA2** to interact with its cell-attached ligands. Interestingly, stimulation of **EphA2** reverses the malignant growth and invasiveness of **EphA2**-transformed cells. Taken together, these results identify **EphA2** as a powerful oncoprotein in breast cancer.

ST **EphA2 receptor tyrosine kinase**

IT mammary epithelium tumorigenesis

IT Phenotypes

IT Signal transduction, biological
(**EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT Ligands

IT RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(cell-attached ligands; **EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT Mammary gland

IT (epithelium; **EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT Mammary gland

IT (neoplasm; **EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT Phosphorylation, biological

IT (protein; **EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT Catenins

IT RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(β -; **EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

IT 149433-91-0, **EphA2 receptor tyrosine kinase**

IT RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**EphA2** overexpression causes tumorigenesis of mammary epithelial cells)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L40 ANSWER 46 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:137403 HCAPLUS

DN 134:177365

ED Entered STN: 25 Feb 2001

TI Antibodies as a cancer diagnostic

IN **Kinch, Michael Scott**; Zantek, Nicole Dodge

PA Purdue Research Foundation, USA

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12Q001-00

CC 15-3 (Immunochemistry)

Section cross-reference(s): 9, 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001012840	A2	20010222	WO 2000-US22669	20000817 <--
	WO 2001012840	A3	20010503		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	CA 2382655	AA	20010222	CA 2000-2382655	20000817 <--
	EP 1210603	A2	20020605	EP 2000-955686	20000817 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,			

IE, SI, LT, LV, FI, RO, MK, CY, AL
 JP 2003507023 T2 20030225 JP 2001-516927 20000817 <--
 PRAI US 1999-149259P P 19990817 <--
 WO 2000-US22669 W 20000817 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001012840	ICM	C12Q001-00
WO 2001012840	ECLA	C07K016/32; G01N033/574V <--
AB	Method and kits are provided for the detection and diagnosis of metastatic disease. More particularly, the methods and kits employ compds. that can detect EphA2 , a specific epithelial cell tyrosine kinase that is overexpressed in metastatic tumor cells. In one embodiment the compound is an antibody capable of binding to an epitope of EphA2 .	
ST	EphA2 kinase antibody cancer diagnosis	
IT	Lung, neoplasm Neoplasm (antibodies as a cancer diagnostic)	
IT	Antibodies RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (antibodies as a cancer diagnostic)	
IT	Blood analysis Cerebrospinal fluid Epitopes Saliva Test kits Urine analysis (antibodies as a cancer diagnostic in relation to)	
IT	Diagnosis (cancer; antibodies as a cancer diagnostic)	
IT	Intestine, neoplasm (colon; antibodies as a cancer diagnostic)	
IT	Immunoassay (enzyme-linked immunosorbent assay; antibodies as a cancer diagnostic in relation to)	
IT	Cytometry (flow; antibodies as a cancer diagnostic in relation to)	
IT	Antibodies RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (labeled; antibodies as a cancer diagnostic)	
IT	Mammary gland Prostate gland (neoplasm; antibodies as a cancer diagnostic)	
IT	149433-91-0, EphA2 receptor tyrosine kinase RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses) (antibodies as a cancer diagnostic in relation to)	
IT	21820-51-9, Phosphotyrosine RL: BSU (Biological study, unclassified); BIOL (Biological study) (antibodies as a cancer diagnostic in relation to)	
L40	ANSWER 47 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN	
AN	2001:137006 HCAPLUS	
DN	134:188192	
ED	Entered STN: 25 Feb 2001	
TI	Treatment of metastatic disease using compounds specific for EphA2	

IN **Kinch, Michael Scott**
 PA Purdue Research Foundation, USA
 SO PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A61K031-00
 ICS A61K039-395; A61K049-00; C07K002-00; C07K005-00; C07K016-28
 CC 1-6 (Pharmacology)
 Section cross-reference(s): 14, 15, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001012172	A1	20010222	WO 2000-US22670	20000817 <--	
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	CA 2380888	AA	20010222	CA 2000-2380888	20000817 <--	
	EP 1242060	A1	20020925	EP 2000-955687	20000817 <--	
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL		
	JP 2003516930	T2	20030520	JP 2001-516518	20000817 <--	
PRAI	US 1999-149258P	P	19990817	<--		
	WO 2000-US22670	W	20000817	<--		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	WO 2001012172	ICM	A61K031-00
		ICS	A61K039-395; A61K049-00; C07K002-00; C07K005-00; C07K016-28
	WO 2001012172	ECLA	A61K038/19; C07K016/32 <--
AB	The present invention is directed to compds. and methods for the treatment of metastatic disease. The compds. of this invention have specificity for Epha2 , an epithelial cell tyrosine kinase that is overexpressed in metastatic tumor cells. The compds. used in accordance with this invention may be provided in a pharmaceutical composition for treatment of metastatic disease. For example, an Epha2 agonist, EphrinA1 -Fc (0.5 mg/mL), increased the phosphorylation content of Epha2 in MCFEpha2 cells. This Epha2 stimulation reversed the effects of Epha2 overexpression.		
ST	Epha2 receptor tyrosine kinase antibody metastasis; cancer metastasis diagnosis treatment Epha2 antibody		
IT	Animal cell line (B2D6, antibodies against; compds. specific for Epha2 for diagnosis and treatment of metastatic disease using compds. specific for)		
IT	Hybridoma (antibodies against; compds. specific for Epha2 for diagnosis and treatment of metastatic disease using compds. specific for)		
IT	Diagnosis (cancer, metastasis; compds. specific for Epha2 for diagnosis and treatment of metastatic disease using compds. specific for)		
IT	Intestine, neoplasm		

- (colon, metastasis, inhibitors; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antitumor agents
Intestine, neoplasm
(colon, metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Drug targeting
Immunotherapy
Luminescence
Protein sequences
(compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Growth factors, animal
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ephrin A1-Fc; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Epitopes
(extracellular, of **Epha2**; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Multiple myeloma
(fusion with lymph node cells; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Lymph node
(fusion with myeloma cells; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Drug delivery systems
(immunoconjugates; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antitumor agents
(lung, metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antitumor agents
(mammary gland, metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Lung, neoplasm
Mammary gland
(metastasis, inhibitors; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antitumor agents
Lung, neoplasm
(metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antibodies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monoclonal, conjugates, with cytotoxic agents; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)
- IT Antibodies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses) (monoclonal; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT Prostate gland
(neoplasm, metastasis, inhibitors; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT Mammary gland
Prostate gland
(neoplasm, metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT Antitumor agents
(prostate gland, metastasis; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT Phosphorylation, biological
(protein; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT 67-43-6, Diethylenetriamine pentaacetic acid 10025-76-0, Europium trichloride
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (antibody label; compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

IT 149433-91-0, **Epha2** receptor tyrosine kinase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (compds. specific for **Epha2** for diagnosis and treatment of metastatic disease using compds. specific for)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 48 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:15481 HCAPLUS

DN 134:220607

ED Entered STN: 08 Jan 2001

TI The **ephrin-A1** ligand and its receptor, **Epha2**, are expressed during tumor neovascularization

AU Ogawa, Kazushige; Pasqualini, Renata; Lindberg, Richard A.; Kain, Renate; Freeman, Andrew L.; Pasquale, Elena B.

CS The Burnham Institute, La Jolla, CA, 92037, USA

SO Oncogene (2000), 19(52), 6043-6052

CODEN: ONCNES; ISSN: 0950-9232

PB Nature Publishing Group

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

Section cross-reference(s): 2

AB **Eph** receptor tyrosine kinases and their **ephrin** ligands have been implicated in embryonic vascular development and in in vivo models of angiogenesis. **Eph**

proteins may also regulate tumor neovascularization, but this role has not been previously investigated. To screen for **Eph proteins** expressed in tumor blood vessels, we used tumor xenografts grown in nude mice from MDA-MB-435 human breast cancer cells or KS1767 human Kaposi's sarcoma cells. By immunohistochem., the **ephrin-A1** ligand and one of its **receptors**, **EphA2**, were detected throughout tumor vasculature. Double-labeling with anti-CD34 antibodies demonstrated that both **ephrin-A1** and **EphA2** were expressed in xenograft endothelial cells and also tumor cells. Furthermore, **EphA2** was **tyrosine-phosphorylated** in the xenograft tumors, indicating that it was activated, presumably by interacting with **ephrin-A1**. **Ephrin-A1** and **EphA2** were also detected in both the vasculature and tumor cells of surgically removed human cancers. In an in vitro angiogenesis model, a dominant neg. form of **EphA2** **inhibited** capillary tube-like formation by human umbilical vein endothelial cells (HUVECs), demonstrating a requirement for **EphA receptor** signaling. These data suggest that **ephrin-A1** and **EphA2** play a role in human cancers, at least in part by influencing tumor neovascularization. **Eph proteins** may represent promising new targets for antiangiogenic cancer treatments.

- ST **ephrin EphA2 receptor** vascular endothelium
tumor neovascularization
- IT Sarcoma
(Kaposi's; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Lung, neoplasm
(adenocarcinoma, anaplastic; **ephrin-A1** ligand and
EphA2 receptor expression during human tumor
neovascularization)
- IT Intestine, neoplasm
(colon, carcinoma; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Mammary gland
(disease, benign; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Signal transduction, biological
Stomach, neoplasm
(**ephrin-A1** ligand and **EphA2 receptor**
expression during human tumor neovascularization)
- IT Growth factors, animal
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);
BSU (Biological study, unclassified); BIOL (Biological study); OCCU
(Occurrence)
(**ephrin-A1**; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Mammary gland
(fibroadenoma; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Mammary gland
(gynecomastia; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Mammary gland
(neoplasm; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Angiogenesis
(neovascularization; **ephrin-A1** ligand and **EphA2**
receptor expression during human tumor neovascularization)
- IT Kidney, neoplasm
(renal cell carcinoma; **ephrin-A1** ligand and **EphA2**

receptor expression during human tumor neovascularization)
 IT Lung, neoplasm
 (squamous cell carcinoma; ephrin-A1 ligand and EphA2
 receptor expression during human tumor neovascularization)
 IT Vein
 (umbilical, endothelium; ephrin-A1 ligand and EphA2
 receptor expression during human tumor neovascularization)
 IT 149433-91-0, EphA2 receptor tyrosine
 kinase
 RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or
 effector, except adverse); BOC (Biological occurrence); BSU (Biological
 study, unclassified); BIOL (Biological study); OCCU (Occurrence)
 (ephrin-A1 ligand and EphA2 receptor
 expression during human tumor neovascularization)

RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L40 ANSWER 49 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:790501 HCAPLUS

DN 133:350203

ED Entered STN: 10 Nov 2000

TI Substituted 3-cyano-[1.7]-, -[1.5]-, and -[1.8]-naphthyridine
 inhibitors of tyrosine kinases

IN Wissner, Allan; Hamann, Philip Ross; Yamashita, Ayako

PA American Cyanamid Company, USA

SO PCT Int. Appl., 155 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07D471-04

ICS A61K031-4375; A61P035-00; C07D471-04; C07D221-00; C07D221-00

CC 28-2 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1

FAN.CNT 1

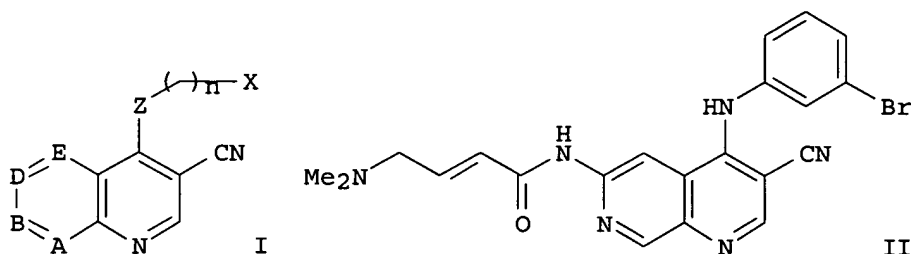
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000066583	A1	20001109	WO 2000-US10250	20000418 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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	CA 2365212	AA	20001109	CA 2000-2365212	20000418 <--
	BR 2000009870	A	20020108	BR 2000-9870	20000418 <--
	EP 1171440	A1	20020116	EP 2000-926043	20000418 <--
	EP 1171440	B1	20040414		
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	US 6355636	B1	20020312	US 2000-550824	20000418 <--
	JP 2002543198	T2	20021217	JP 2000-615613	20000418 <--
	NZ 514576	A	20040227	NZ 2000-514576	20000418 <--
	AT 264328	E	20040415	AT 2000-926043	20000418 <--
	PT 1171440	T	20040730	PT 2000-926043	20000418 <--
	AU 776962	B2	20040930	AU 2000-44639	20000418 <--
	ES 2216884	T3	20041101	ES 2000-926043	20000418 <--
	ZA 2001008015	A	20030102	ZA 2001-8015	20010928 <--
	NO 2001005062	A	20011018	NO 2001-5062	20011018 <--

US 2002165229	A1	20021107	US 2001-32587	20011221 <--
US 6548496	B2	20030415		
HK 1040077	A1	20040910	HK 2002-101412	20020225 <--
PRAI US 1999-155255P	P	19990421	<--	
US 1999-295507	A	19990421	<--	
US 2000-550824	A3	20000418	<--	
WO 2000-US10250	W	20000418	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 2000066583	ICM	C07D471-04	
	ICS	A61K031-4375; A61P035-00; C07D471-04; C07D221-00; C07D221-00	
WO 2000066583	ECLA	C07D471/04+221B+221B+2	<--
US 6355636	NCL	514/234.500; 544/127.000; 546/014.000; 546/122.000	
	ECLA	A61K031/47; A61K031/498; A61K031/506; A61K031/538; C07D471/04+221B+221B+2	<--
US 2002165229	NCL	514/234.500; 544/127.000; 546/014.000; 546/122.000	
	ECLA	A61K031/47; A61K031/498; A61K031/506; A61K031/538; C07D471/04+221B+221B+2	<--

OS MARPAT 133:350203
GI



AB This invention provides title compds. I [X = certain (un)substituted cycloalkyl, pyridinyl, pyrimidinyl, Ph, bicyclic aryl, or bicyclic heteroaryl; Z = NH, O, S, or NR; R = alkyl or carboalkyl; A:BD:E = (un)substituted CH:CHCH:N, CH:NCH:CH, N:CHCH:CH; n = 0-1; with numerous provisos] and their pharmaceutically acceptable salts. The compds. are **inhibitors of protein tyrosine kinase**, useful for treating certain cancers, polycystic kidney disease, colonic polyps, etc. A variety of example compds. and intermediates were prepared in 86 examples. For instance, 4-bromobut-2-enoyl chloride (prepared from TMS ester) was amidated with 6-amino-4-(3-bromophenylamino)-1,7-naphthyridine-3-carbonitrile, and the resultant halo amide (1:1 mixture of chloro and bromo compds.) was rebrominated with NaBr and aminated with Me₂NH to give title compound II. The latter compound **inhibited** growth of a variety of human tumor cell lines in vitro, e.g., SKBR3 with an IC₅₀ of 0.03565 μM/mL. **Inhibitions** of various **receptor tyrosine kinases** by I were determined for selected compds.

ST cyanonaphthyridine prepn **inhibitor protein tyrosine kinase**; naphthyridine cyano prepn antitumor

IT Antitumor agents
(bladder; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Intestine, neoplasm
Intestine, neoplasm

- (colon, **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Intestine, neoplasm
(colon, polyp, treatment; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
(colon; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
(esophagus; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Vascular endothelial growth factor **receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(gene KDR, **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Growth factor **receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(heregulin, erbB-2, **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Kidney, neoplasm
Kidney, neoplasm
Lung, neoplasm
Lung, neoplasm
Ovary, neoplasm
Ovary, neoplasm
Stomach, neoplasm
Stomach, neoplasm
(**inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Epidermal growth factor **receptors**
Vascular endothelial growth factor **receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(**inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
Antitumor agents
(kidney; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
Antitumor agents
(larynx tumor **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
Antitumor agents
(lung; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
(mammary gland; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Antitumor agents
(mouth; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)
- IT Bladder
Bladder

Esophagus
 Esophagus
 Mammary gland
 Mammary gland
 Mouth
 Mouth
 (neoplasm, **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Antitumor agents
 Antitumor agents
 (ovary; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Kidney, disease
 (polycystic, treatment; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Antitumor agents
 (preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Antitumor agents
 Antitumor agents
 (stomach; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT Larynx
 Larynx
 (tumor **inhibitors**; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT 305370-85-8P, 4-(3-Bromophenylamino)-6-nitro-1,8-naphthyridine-3-carbonitrile 305370-87-0P, 6-Amino-4-(3-bromophenylamino)-1,8-naphthyridine-3-carbonitrile 305370-90-5P, 4-(3-Chloro-4-fluorophenylamino)-6-nitro-1,8-naphthyridine-3-carbonitrile 305370-92-7P, 6-Amino-4-(3-chloro-4-fluorophenylamino)-1,8-naphthyridine-3-carbonitrile 305371-19-1P, 4-(3-Bromophenylamino)-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-20-4P, 4-(3-Bromophenylamino)-6-(4-methoxybenzylamino)-1,7-naphthyridine-3-carbonitrile 305371-21-5P, 6-Amino-4-(3-bromophenylamino)-1,7-naphthyridine-3-carbonitrile 305371-30-6P, 6-Fluoro-4-(3-hydroxy-4-methylphenylamino)-1,7-naphthyridine-3-carbonitrile 305371-31-7P, 6-Fluoro-4-(4-phenoxyphenylamino)-1,7-naphthyridine-3-carbonitrile 305371-32-8P, 4-(2,4-Dichlorophenylamino)-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-33-9P, 4-(3-Chloro-4-fluorophenylamino)-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-34-0P, 4-(4-Chloro-2-fluorophenylamino)-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-47-5P, 4-(3-Bromophenylamino)-6-(trimethylsilylanylethynyl)-1,7-naphthyridine-3-carbonitrile
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (drug candidate; preparation of substituted cyanonaphthyridine **inhibitors of tyrosine kinases**)

IT 305370-86-9P, 4-(3-Bromophenylamino)-6-nitro-1,8-naphthyridine-3-carbonitrile hydrochloride 305370-88-1P, N-[5-(3-Bromophenylamino)-6-cyano-1,8-naphthyridin-3-yl]acrylamide 305370-89-2P, But-2-ynoic acid [5-(3-bromophenylamino)-6-cyano-1,8-naphthyridin-3-yl]amide 305370-91-6P, 4-(3-Chloro-4-fluorophenylamino)-6-nitro-1,8-naphthyridine-3-carbonitrile hydrochloride 305370-93-8P, But-2-ynoic acid [5-(3-chloro-4-fluorophenylamino)-6-cyano-1,8-naphthyridin-3-yl]amide 305370-94-9P, N-[5-(3-Bromophenylamino)-6-cyano-1,8-naphthyridin-3-yl]-2-chloroacetamide 305370-95-0P, 4-(Dimethylamino)but-2-enoic acid [5-(3-bromophenylamino)-6-cyano-1,8-naphthyridin-3-yl]amide

305370-99-4P, 4-(3-Bromophenylamino)-6-ethoxy-1,5-naphthyridine-3-carbonitrile 305371-01-1P, 4-(3-Bromophenylamino)-1,5-naphthyridine-3-carbonitrile 305371-08-8P, 4-(3-Hydroxy-4-methylphenylamino)-6-(3-morpholin-4-ylpropoxy)-1,5-naphthyridine-3-carbonitrile 305371-09-9P, 4-(3-Bromophenylamino)-6-(3-morpholin-4-ylpropoxy)-1,5-naphthyridine-3-carbonitrile 305371-10-2P, 4-(3-Hydroxy-4-methylphenylamino)-6-(2-morpholin-4-ylethoxy)-1,5-naphthyridine-3-carbonitrile 305371-11-3P, 4-(3-Bromophenylamino)-6-(2-morpholin-4-ylethoxy)-1,5-naphthyridine-3-carbonitrile 305371-14-6P, 6-Amino-4-(3-bromophenylamino)-1,5-naphthyridine-3-carbonitrile 305371-23-7P, But-2-ynoic acid [4-(3-bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]amide 305371-24-8P, 4-Dimethylaminobut-2-enoic acid [4-(3-bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]amide 305371-27-1P, 4-(3-Bromophenylamino)-6-(2-morpholin-4-ylethylamino)-1,7-naphthyridine-3-carbonitrile 305371-28-2P, 4-(3-Bromophenylamino)-6-methylamino-1,7-naphthyridine-3-carbonitrile 305371-29-3P, 1-[4-(3-Bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]-4-dimethylaminopyridinium fluoride 305371-35-1P, 4-(4-Chloro-2-fluorophenoxy)-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-36-2P, 6-(2-Dimethylaminoethoxy)-4-(4-phenoxyphenylamino)-1,7-naphthyridine-3-carbonitrile 305371-37-3P, 4-(3-Chloro-4-fluorophenylamino)-6-(2-dimethylaminoethoxy)-1,7-naphthyridine-3-carbonitrile 305371-38-4P, 4-(2,4-Dichlorophenylamino)-6-(2-dimethylaminoethoxy)-1,7-naphthyridine-3-carbonitrile 305371-39-5P, 4-(4-Chloro-2-fluorophenylamino)-6-(2-dimethylaminoethoxy)-1,7-naphthyridine-3-carbonitrile 305371-40-8P, 4-(3-Bromophenylamino)-6-(2-dimethylaminoethoxy)-1,7-naphthyridine-3-carbonitrile 305371-41-9P, 6-(2-Dimethylaminoethoxy)-4-(3-hydroxy-4-methylphenylamino)-1,7-naphthyridine-3-carbonitrile 305371-44-2P, 4-(3-Bromophenylamino)-6-chloro-1,7-naphthyridine-3-carbonitrile 305371-49-7P, 4-(3-Bromophenylamino)-6-ethynyl-1,7-naphthyridine-3-carbonitrile 305371-50-0P, 1-[4-(3-Bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]-4-dimethylaminopyridinium

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of substituted cyanonaphthyridine

inhibitors of tyrosine kinases)

IT 79079-06-4, Epidermal Growth Factor Receptor Kinase

80449-02-1, Protein tyrosine kinase

142243-02-5, Mitogen Activated Protein Kinase

142805-58-1, MAPK kinase 149433-91-0, ECK

kinase

RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)

(**inhibitors; preparation of substituted cyanonaphthyridine**

inhibitors of tyrosine kinases)

IT 456-24-6P, 2-Fluoro-5-nitropyridine 1827-27-6P, 6-Fluoropyridin-3-ylamine 4441-30-9P, 3-Morpholinopropanol 5350-93-6P, 6-Chloropyridin-3-ylamine 13280-03-0P, 4-Chlorobut-2-ynoic acid 20629-35-0P, 4-Bromocrotonic acid 31594-45-3P, 2-Ethoxy-5-nitropyridine 37616-36-7P, Sodium(2-dimethylaminoethoxide) 45813-02-3P, 1-Methyl-4-prop-2-ynylpiperazine 51544-74-2P, 4-Bromo-2-butenoyl chloride 52025-34-0P, 2-Ethoxy-5-aminopyridine 118764-05-9P, 4-Dimethylaminobut-2-ynoic acid 171178-41-9P, (6-Fluoropyridin-3-yl)carbamic acid tert-butyl ester 171178-42-0P, 5-tert-Butoxycarbonylamino-2-fluoroisonicotinic acid 171178-45-3P, (6-Chloropyridin-3-yl)carbamic acid tert-butyl ester 171178-46-4P, 5-tert-Butoxycarbonylamino-2-chloroisonicotinic acid 198149-15-4P, (2S)-2-(Methoxymethyl)-1-prop-2-ynylpyrrolidine 214487-27-1P, 4-(4-Methylpiperazin-1-yl)but-2-ynoic acid 220699-97-8P,

Bis(2-methoxyethyl)(prop-2-ynyl)amine 220699-98-9P, 4-[Bis(2-methoxyethyl)amino]but-2-ynoic acid 220699-99-0P, (2-Methoxyethyl)methylprop-2-ynylamine 220700-00-5P, 4-[N-(2-Methoxyethyl)-N-methylamino]but-2-ynoic acid 220700-02-7P 220700-03-8P, 4-(Allylmethylamino)but-2-ynoic acid 220700-04-9P, 4-(2-Methoxyethoxy)but-2-ynoic acid 220700-05-0P, 4-(Methoxymethoxy)but-2-ynoic acid 263148-94-3P, 4-[(2S)-2-(Methoxymethyl)pyrrolidin-1-yl]but-2-ynoic acid 263148-96-5P, 4-(1,4-Dioxo-8-azaspiro[4.5]dec-8-yl)but-2-ynoic acid 263148-97-6P, 3-(1,4-Dioxo-8-azaspiro[4.5]dec-8-yl)prop-1-yne 305370-82-5P, 2-(2-Chloro-5-nitropyridine-3-carbonyl)-3-(dimethylamino)acrylonitrile 305370-83-6P, 6-Nitro-4-oxo-1,4-dihydro-1,8-naphthyridine-3-carbonitrile 305370-84-7P, 4-Chloro-6-nitro-1,8-naphthyridine-3-carbonitrile 305370-96-1P, 2-Cyano-3-(6-ethoxypyridin-3-ylamino)acrylic acid ethyl ester 305370-97-2P, 6-Ethoxy-4-hydroxy-1,5-naphthyridine-3-carbonitrile 305370-98-3P, 4-Chloro-6-ethoxy-1,5-naphthyridine-3-carbonitrile 305371-00-0P, 4-Hydroxy-1,5-naphthyridine-3-carbonitrile 305371-02-2P, 4-Chloro-1,5-naphthyridine-3-carbonitrile 305371-03-3P, 2-(3-Morpholin-4-ylpropoxy)-5-nitropyridine 305371-04-4P, 2-Cyano-3-[[6-(3-morpholin-4-ylpropoxy)pyridin-3-yl]amino]acrylic acid ethyl ester 305371-05-5P, 2-(3-Morpholin-4-ylpropoxy)-5-aminopyridine 305371-06-6P, 4-Hydroxy-6-(3-morpholin-4-ylpropoxy)-1,5-naphthyridine-3-carbonitrile 305371-07-7P, 4-Chloro-6-(3-morpholin-4-ylpropoxy)-1,5-naphthyridine-3-carbonitrile 305371-12-4P, 6-Acetamido-4-hydroxy-1,5-naphthyridine-3-carbonitrile 305371-13-5P, 6-Acetamido-4-chloro-1,5-naphthyridine-3-carbonitrile 305371-15-7P, 5-tert-Butoxycarbonylamino-2-fluoroisonicotinic acid methyl ester 305371-16-8P, [6-Fluoro-4-(3-nitropropionyl)pyridin-3-yl]carbamic acid tert-butyl ester 305371-17-9P, 6-Fluoro-4-hydroxy-1,7-naphthyridine-3-carbonitrile 305371-18-0P, 4-Chloro-6-fluoro-1,7-naphthyridine-3-carbonitrile 305371-22-6P, 6-Amino-4-(4-methoxybenzylamino)-1,7-naphthyridine-3-carbonitrile 305371-25-9P, 4-Bromobut-2-enoic acid [4-(3-bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]amide 305371-26-0P, 4-Chlorobut-2-enoic acid [4-(3-bromophenylamino)-3-cyano-1,7-naphthyridin-6-yl]amide 305371-42-0P, 5-tert-Butoxycarbonylamino-2-chloroisonicotinic acid methyl ester 305371-43-1P, 6-Chloro-4-hydroxy-1,7-naphthyridine-3-carbonitrile 305371-45-3P, 4,6-Dichloro-1,7-naphthyridine-3-carbonitrile 305371-46-4P, 4-Hydroxy-6-(trimethylsilanylethynyl)-1,7-naphthyridine-3-carbonitrile 305371-48-6P, 4-Chloro-6-trimethylsilanylethynyl-1,7-naphthyridine-3-carbonitrile
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of substituted cyanonaphthyridine inhibitors of tyrosine kinases)

IT 75-05-8, Acetonitrile, reactions 79-04-9, Chloroacetyl chloride 94-05-3, Ethyl(ethoxymethylene)cyanoacetate 106-96-7, Propargyl bromide 107-19-7, Propargyl alcohol 107-30-2, Chloromethyl methyl ether 108-01-0, 2-Dimethylaminoethanol 109-01-3, 1-Methylpiperazine 109-86-4, 2-Methoxyethanol 110-91-8, Morpholine, reactions 111-95-5 139-59-3, 4-Phenoxyaniline 177-11-7, 1,4-Dioxo-8-azaspiro[4.5]decane 348-62-9, 4-Chloro-2-fluorophenol 367-21-5, 3-Chloro-4-fluoroaniline 462-08-8, 3-Aminopyridine 554-00-7, 2,4-Dichloroaniline 590-93-2, 2-Butynoic acid 591-19-5, 3-Bromoaniline 622-40-2, 2-Morpholinoethanol 624-65-7, Propargyl chloride 627-18-9 627-37-2, Allylmethylamine 814-68-6, Acryloyl chloride 1066-54-2, Trimethylsilanylethyne 1117-71-1, Methyl 4-bromocrotonate 1122-58-3, 4-Dimethylaminopyridine 2038-03-1, N-(2-Aminoethyl)morpholine 2393-23-9, 4-Methoxybenzylamine 2407-68-3, 3-Dimethylaminoacrylonitrile 2835-95-2, 3-Hydroxy-4-methylaniline 4214-76-0, 2-Amino-5-nitropyridine 4548-45-2, 2-Chloro-5-nitropyridine 4637-24-5, Dimethylformamide dimethyl acetal 7223-38-3, 1-Dimethylamino-2-propyne 24424-99-5, Di-tert-butyl

dicarbonate 38256-93-8, N-(2-Methoxyethyl)methylamine 42959-38-6,
 3-Carboxy-2-chloro-5-nitropyridine 57946-56-2, 4-Chloro-2-fluoroaniline
 63126-47-6, (S)-2-(Methoxymethyl)pyrrolidine 79863-92-6, Trimethylsilyl
 4-bromo-2-butenolate

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; preparation of substituted cyanonaphthyridine
 inhibitors of tyrosine kinases)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Zeneca; WO 9813350 A 1998 HCAPLUS

L40 ANSWER 50 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:108659 HCAPLUS

DN 132:234707

ED Entered STN: 16 Feb 2000

TI Activation of **EphA2 kinase** suppresses integrin
 function and causes focal-adhesion-kinase dephosphorylation

AU Miao, Hui; Burnett, Elisabeth; Kinch, Michael; Simon, Erin;
 Wang, Bingcheng

CS Rammelkamp Center for Research, MetroHealth Campus, Case Western Reserve
 University School of Medicine, Cleveland, OH, 44109, USA

SO Nature Cell Biology (2000), 2(2), 62-69

CODEN: NCBIFN; ISSN: 1465-7392

PB Macmillan Magazines Ltd

DT Journal

LA English

CC 13-2 (Mammalian Biochemistry)

AB Interactions between **receptor tyrosine kinases**
 of the **Eph** family and their ligands, **ephrins**, are
 implicated in establishment of organ boundaries and repulsive guidance of
 cell migration during development, but the mechanisms by which this is
 achieved are unclear. Here we show that activation of endogenous
EphA2 kinase induces an inactive conformation of
 integrins and inhibits cell spreading, migration and integrin-mediated
 adhesion. Moreover, **EphA2** is constitutively associated with
 focal-adhesion kinase (FAK) in resting cells. Within one minute
 after stimulation of **EphA2** with its ligand, **ephrin-A1**,
 the **protein tyrosine phosphatase** SHP2 is recruited to
EphA2; this is followed by dephosphorylation of FAK and paxillin,
 and dissociation of the FAK-**EphA2** complex. We conclude that
Eph kinases mediate some of their functions by neg.
 regulating integrins and FAK.

ST **EphA2 FAK kinase** dephosphorylation **ephrinA1**
 integrin cell migration adhesion

IT Integrins

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)

(activation of **EphA2 kinase** suppresses integrin
 function and causes focal-adhesion-kinase dephosphorylation)

IT Cell adhesion

Cell migration

(activation of **EphA2 kinase** suppresses integrin
 function and inhibits)

IT Spreading

(biol.; activation of **EphA2 kinase** suppresses
 integrin function and inhibits)

IT **Proteins**, specific or class

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)

- (**ephrin-A1**; activation of **EphA2 kinase**
suppresses integrin function and causes focal-adhesion-kinase
dephosphorylation)
- IT Phosphorylation, biological
(**protein**; activation of **EphA2 kinase**
suppresses integrin function and causes focal-adhesion-kinase
dephosphorylation)
- IT 144114-16-9, Focal adhesion kinase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
(Biological study); PROC (Process)
(complex with **EphA2 kinase**; activation of
EphA2 kinase suppresses integrin function and causes
focal-adhesion-kinase dephosphorylation)
- IT 149433-91-0, **EphA2 receptor tyrosine
kinase**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological
process); BSU (Biological study, unclassified); BIOL (Biological study);
PROC (Process)
(complex with focal adhesion kinase; activation of
EphA2 kinase suppresses integrin function and causes
focal-adhesion-kinase dephosphorylation)

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RE

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L40 ANSWER 51 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:811742 HCAPLUS

DN 132:235140

ED Entered STN: 26 Dec 1999

TI Overexpression of the **Epha2 tyrosine kinase**
in prostate cancer

AU Walker-Daniels, J.; Coffman, K.; Azimi, M.; Rhim, J. S.; Bostwick, D. G.;
Snyder, P.; Kerns, B. J.; Waters, D. J.; Kinch, M. S.

CS Department of Basic Medical Sciences, Purdue University, West Lafayette,
IN, USA

SO Prostate (New York) (1999), 41(4), 275-280

CODEN: PRSTDS; ISSN: 0270-4137

PB Wiley-Liss, Inc.

DT Journal

LA English

CC 14-1 (Mammalian Pathological Biochemistry)

AB BACKGROUND. Mols. that are highly expressed by human prostate cancers may
serve as therapeutically relevant targets or tumor markers.

Tyrosine kinases are frequently over-expressed in
metastatic tumor cells and this prompted us to screen for **tyrosine**
kinases that are overexpressed in prostate cancer cells. METHODS.

Expression levels of the **Epha2 receptor**

tyrosine kinase were determined by Western blot anal. in
canine and human prostate cancer cell lines and in immortalized and
transformed variants of 267B1 prostatic epithelial cells. **Epha2**
levels in benign human prostate and prostate cancers were also determined in
formalin-fixed, paraffin-embedded tissues using immunohistochem. staining.

RESULTS. Metastatic prostate cancer cells overexpressed **Epha2** by
10-100 fold as compared with non-invasive prostatic epithelial cells.

Epha2 immunoreactivity in vivo was also significantly greater in
human prostate cancers as compared with benign prostate epithelium.

CONCLUSIONS. The **Epha2 receptor tyrosine**

kinase is differentially expressed in human and canine prostate
cancer cell lines and overexpressed in human prostate cancers as compared
with benign prostate tissues. Metastasis-derived canine prostate
carcinoma cell lines overexpress **Epha2** and may provide pre-clin.
models to further evaluate the role of **Epha2** in prostate
carcinogenesis. Further investigations are needed to determine the utility of
Epha2 as a tumor marker and a novel target in human prostate
cancer.

ST **Epha2 tyrosine kinase prostate cancer**

IT Diagnosis

(cancer; overexpression of the **Epha2 tyrosine**
kinase in canine and human prostate cancer cells)

IT Prostate gland

(neoplasm, metastasis; overexpression of the **Epha2**
tyrosine kinase in canine and human prostate cancer)

cells)
 IT Prostate gland
 (neoplasm; overexpression of the **EphA2 tyrosine kinase** in canine and human prostate cancer cells)
 IT Dog (Canis familiaris)
 Tumor markers
 (overexpression of the **EphA2 tyrosine kinase** in canine and human prostate cancer cells)
 IT 149433-91-0, **EphA2 receptor tyrosine kinase**
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
 (overexpression of the **EphA2 tyrosine kinase** in canine and human prostate cancer cells)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L40 ANSWER 52 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:639316 HCAPLUS

DN 131:334871

ED Entered STN: 08 Oct 1999

TI E-cadherin regulates the function of the **EphA2 receptor tyrosine kinase**

AU Zantek, Nicole Dodge; Azimi, Minoudokht; Fedor-Chaiken, Mary; Wang, Bingcheng; Brackenbury, Robert; **Kinch, Michael S.**

CS Department of Basic Medical Sciences and Purdue Cancer Center, Purdue University, West Lafayette, IN, 47907, USA

SO Cell Growth & Differentiation (1999), 10(9), 629-638

CODEN: CGDIE7; ISSN: 1044-9523

PB American Association for Cancer Research

DT Journal

LA English

CC 13-2 (Mammalian Biochemistry)

Section cross-reference(s): 14

AB **EphA2** is a member of the **Eph** family of **receptor tyrosine kinases**, which are increasingly understood to play critical roles in disease and development.

We report here the regulation of **EphA2** by E-cadherin. In nonneoplastic epithelia, **EphA2** was tyrosine-phosphorylated and localized to sites of cell-cell contact. These properties required the proper expression and functioning of E-cadherin. In breast cancer cells that lack E-cadherin, the phosphotyrosine content of **EphA2** was decreased, and **EphA2** was redistributed into membrane ruffles. Expression of E-cadherin in metastatic cells restored a more normal pattern of **EphA2** phosphorylation and localization. Activation of **EphA2**, either by E-cadherin expression or antibody-mediated aggregation, decreased cell-extracellular matrix adhesion and cell growth. Altogether, this demonstrates that **EphA2** function is dependent on E-cadherin and suggests that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**.

- ST **EphA2 receptor tyrosine kinase**
localization phosphorylation E cadherin; mammary gland epithelium breast cancer metastasis **EphA2** E cadherin; cell adhesion proliferation cancer metastasis **EphA2** E cadherin
- IT Cadherins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(E-; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Cell junction
(**EphA2** at; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Mammary gland
(epithelium, **EphA2** in; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Cell junction
(focal contact; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Cell adhesion
Cell proliferation
(localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Organelle
(membrane ruffles, **EphA2** in; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)
- IT Mammary gland
(neoplasm, **EphA2** in; localization and phosphorylation of **EphA2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **EphA2**)

- IT Mammary gland
(neoplasm, metastasis, **Epha2** in relation to; localization and phosphorylation of **Epha2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **Epha2**)
- IT Phosphorylation, biological
(protein, tyrosine; localization and phosphorylation of **Epha2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **Epha2**)
- IT Cell membrane
(ruffles, **Epha2** in; localization and phosphorylation of **Epha2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **Epha2**)
- IT 149433-91-0, **Epha2 receptor tyrosine kinase**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(localization and phosphorylation of **Epha2 receptor tyrosine kinase** is dependent on E-cadherin and evidence that loss of E-cadherin function may alter neoplastic cell growth and adhesion via effects on **Epha2**)

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L40 ANSWER 53 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:685118 HCAPLUS

DN 129:310905

ED Entered STN: 29 Oct 1998

TI Study and treatment of diseases related to specific cellular functions of
receptor protein tyrosine kinases

IN Clary, Douglas

PA Sugen, Inc., USA

SO PCT Int. Appl., 81 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-566

ICS A61K031-00

CC 1-12 (Pharmacology)

Section cross-reference(s): 13, 14, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9845708	A1	19981015	WO 1998-US6842	19980407 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9868876	A1	19981030	AU 1998-68876	19980407 <--
	US 2002068361	A1	20020606	US 1998-57150	19980407 <--

	US 6235769	B1	20010522	US 1998-109883	19980702 <--
PRAI	US 1997-43207P	P	19970408	<--	
	US 1997-51715P	P	19970703	<--	
	WO 1998-US6842	W	19980407	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9845708	ICM	G01N033-566	
	ICS	A61K031-00	
WO 9845708	ECLA	G01N033/566	<--
US 2002068361	NCL	435/455.000; 435/007.100	<--
US 6235769	NCL	514/419.000; 514/418.000	
	ECLA	A61K031/40	<--

AB The invention relates to methods of evaluating the specific function of a **receptor protein tyrosine kinase** in cells by activating the **receptor** in a ligand-independent fashion. In addition, the invention includes methods of identifying compds. that modulate **receptor protein tyrosine kinase** function. The invention also relates to a method of **preventing** or treating an abnormal condition caused by an aberration in the function of the C-RET **receptor**, and specifically to the treatment and **prevention** of neurodegenerative disorders by administering a compound that modulates the function of the C-RET **receptor**.

ST **receptor protein tyrosine kinase** function evaluation; drug screening **receptor protein tyrosine kinase**; ret **receptor** disease therapeutic; neurodegenerative disorder therapeutic ret **receptor** modulator

IT Chicken (Gallus domesticus)
(RPTK extracellular region from; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Chimeric gene
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(RPTK intra- and extracellular region-encoding; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Nervous system
(amyotrophic lateral sclerosis; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Biological transport
(blood-brain barrier; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Nervous system
(degeneration; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Cytoprotective agents
(neuroprotectants; study and treatment of diseases related to specific cellular functions of **receptor protein tyrosine kinases**, and screening method)

IT Anti-Alzheimer's agents
Antiparkinsonian agents
Apoptosis

Blood-brain barrier
 Drug delivery systems
 Drug screening
 Nervous system agents
 Phenotypes

(study and treatment of diseases related to specific cellular functions
 of **receptor protein tyrosine
 kinases**, and screening method)

IT Nerve

(sympathetic; study and treatment of diseases related to specific
 cellular functions of **receptor protein
 tyrosine kinases**, and screening method)

IT Antibodies

RL: BPR (Biological process); BSU (Biological study, unclassified); THU
 (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (to RPTK extracellular region; study and treatment of diseases related
 to specific cellular functions of **receptor protein
 tyrosine kinases**, and screening method)

IT 204003-90-7 204003-91-8 204003-96-3 204003-97-4 204004-10-4
 204004-11-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
 (Uses)

(study and treatment of diseases related to specific cellular functions
 of **receptor protein tyrosine
 kinases**, and screening method)

IT 79079-06-4, EGF **receptor tyrosine kinase**

101463-26-7 127407-08-3, **Receptor protein
 tyrosine kinase** 141588-26-3, Ltk **tyrosine
 kinase** 142243-02-5, Erk **receptor tyrosine
 kinase** 144114-11-4, Ros **receptor tyrosine
 kinase** 144247-17-6, Irr **receptor tyrosine
 kinase** 146279-92-7, Ret **receptor tyrosine
 kinase** 146592-50-9, Hek **kinase** 147171-40-2, Tor
receptor tyrosine kinase 148047-27-2, Sek
kinase 149146-92-9, Trk **kinase** 149433-90-9, Elk
receptor tyrosine kinase 149433-91-0
 , Eck **kinase** 149433-92-1, Eph
receptor tyrosine kinase 150523-24-3, Cck9
tyrosine kinase 153190-60-4, Tyro-10 **kinase**
 153190-63-7, Axl **tyrosine kinase receptor**
 154907-68-3, Tyro-3 **kinase** 156859-16-4, Ryk **receptor
 tyrosine kinase** 157857-23-3, Myk2 **receptor
 tyrosine kinase** 160995-45-9, Ehk1 **receptor
 tyrosine kinase** 162032-63-5, Ddr **receptor
 tyrosine kinase** 166433-56-3, Alk **receptor
 tyrosine kinase** 169277-51-4, Mer **receptor
 tyrosine kinase** 171715-11-0, Mdk1 **receptor
 tyrosine kinase** 177529-09-8, MCK-10 **receptor
 tyrosine kinase** 180615-67-2, Ehk2 **receptor
 tyrosine kinase** 185766-52-3, Cck-4 **protein**
tyrosine kinase 204934-34-9, Hek2 **receptor
 tyrosine kinase** 214692-97-4, Ror2 **receptor
 tyrosine kinase** 214692-98-5, Ror1 **receptor
 tyrosine kinase** 216974-70-8, Myk1 **receptor
 tyrosine kinase** 248259-60-1, Eek **receptor
 tyrosine kinase**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)

(study and treatment of diseases related to specific cellular functions

of receptor protein tyrosine
kinases, and screening method)

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L40 ANSWER 54 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:185898 HCAPLUS

DN 124:252691

ED Entered STN: 30 Mar 1996

TI Germ-line inactivation of the murine **Eck receptor tyrosine kinase** by gene trap retroviral insertion

AU Chen, Jin; Nachabah, Abudi; Scherer, Christina; Ganju, Pam; Reith, Alastair; Bronson, Rod; Ruley, H. Earl

CS Dep. Microbiology, Immunology, Vanderbilt Univ. Sch. Med., Nashville, TN, 37232, USA

SO Oncogene (1996), 12(5), 979-88

CODEN: ONCNES; ISSN: 0950-9232

PB Stockton

DT Journal

LA English

CC 3-6 (Biochemical Genetics)

Section cross-reference(s): 13

AB The present study characterized a mutation in the **Eck receptor tyrosine kinase** gene induced by the U3 β geo gene trap retrovirus. The mutation (ecki) was identified during an in vitro screen for proviruses that disrupt developmentally regulated genes in cultured ES cells. The germ-line ecki fusion gene was expressed in blastocyst and later restricted to the primitive streak, node and to regions of the hindbrain in 6.5-10.5 day embryos. This is identical to the pattern of **Eck** gene expression as determined by either in situ hybridization or immunostaining, suggesting that expression of the **Eck** promoter was not affected by provirus integration. The provirus inserted approx. 8 kb upstream of the 5' end of the published cDNA sequence, and 1.8 kb downstream of an alternatively spliced 5' exon. The ecki allele is essentially a null mutation since mutant mice are severely deficient for **Eck protein** as determined by Western blot anal. and in vitro **kinase** assays. Nevertheless, mice homozygous for the mutation did not exhibit any discernable phenotype. These results suggest that other members of the **Eph** family of **receptor tyrosine kinases** can functionally compensate for loss of **Eck**.

ST gene **eck receptor tyrosine kinase**

mutation; retrovirus gene trap **receptor Eck** mutation;

sequence exon gene **eck** mouse

IT Embryo

(germ-line inactivation of murine **Eck receptor tyrosine kinase** by gene trap retroviral insertion and its effects on development)

IT Deoxyribonucleic acid sequences

(of gene **eck** exon 5.2 from mouse)

IT Mouse

(Mus musculus, germ-line inactivation of murine **Eck**

- receptor tyrosine kinase** by gene trap
retroviral insertion)
- IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**eck**, germ-line inactivation of murine **Eck receptor tyrosine kinase** by gene trap
retroviral insertion)
- IT Animal growth regulator **receptors**
Receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(glycoprotein B61, gene **eck**, germ-line inactivation of murine **Eck receptor tyrosine kinase** by
gene trap retroviral insertion)
- IT Mutation
(insertion, germ-line inactivation of murine **Eck receptor tyrosine kinase** by gene trap
retroviral insertion)
- IT Virus, animal
(retro-, U3 β geo gene trap; germ-line inactivation of murine **Eck receptor tyrosine kinase** by
gene trap retroviral insertion)
- IT 149433-91-0, **Kinase** (phosphorylating), gene **eck**
protein
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(germ-line inactivation of murine **Eck receptor tyrosine kinase** by gene trap retroviral insertion)
- IT 166931-97-1
RL: PRP (Properties)
(nucleotide sequence; germ-line inactivation of murine **Eck receptor tyrosine kinase** by gene trap
retroviral insertion)
- L40 ANSWER 55 OF 55 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:241599 HCAPLUS
DN 114:241599
ED Entered STN: 28 Jun 1991
TI cDNA cloning and characterization of **eck**, an **epithelial cell receptor protein-tyrosine kinase** in the **eph/elk** family of **protein kinases**
AU Lindberg, Richard A.; Hunter, Tony
CS Mol. Biol. Virol. Lab., Salk Inst. Biol. Stud., San Diego, CA, 92186-5800, USA
SO Molecular and Cellular Biology (1990), 10(12), 6316-24
CODEN: MCEBD4; ISSN: 0270-7306
DT Journal
LA English
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 7
AB A human epithelial (HeLa) cDNA library was screened with degenerate oligonucleotides designed to hybridize to highly conserved regions of **protein-tyrosine kinases**. One cDNA from this screen was shown to contain a putative **protein-tyrosine kinase** catalytic domain and subsequently used to isolate another cDNA from a human keratinocyte library that encompasses the entire coding region of a 976-amino-acid polypeptide. The predicted **protein**

has an external domain of 534 amino acids with a presumptive N-terminal signal peptide, a transmembrane domain, and a cytoplasmic domain of 418 amino acids that includes a canonical **protein-tyrosine kinase** catalytic domain. Mol. phylogeny indicates that this **protein kinase** is closely related to **eph** and **elk** and that this **receptor** family is more closely related to the non-receptor **protein-tyrosine kinase** families than to other **receptor protein-tyrosine kinases**. Antibodies raised against a TrpE fusion **protein** immunopptd. a 130-kDa **protein** that became phosphorylated on **tyrosine** in immune complex **kinase** assays, indicating that this **protein** is a bona fide **protein-tyrosine kinase**. Anal. of RNA from 13 adult rat organs showed that the **eck** gene is expressed most highly in tissues that contain a high proportion of epithelial cells, e.g., skin, intestine, lung, and ovary. Several cell lines of epithelial origin were found to express the **eck protein kinase** at the **protein** and RNA levels. Immunohistochem. anal. of several rat organs also showed staining in epithelial cells. These observations lead to the naming of this **protein kinase eck**, for epithelial cell **kinase**.

- ST epithelial all **protein kinase eck** sequence;
cDNA **eck protein kinase** cloning sequence;
human **eck protein kinase** cDNA sequence
- IT HeLa cell
(epithelial cell gene **eck protein tyrosine kinase** of, cloning and sequencing of cDNA for)
- IT Epithelium
(gene **eck protein tyrosine kinase** of, of human, cloning and sequencing of cDNA for)
- IT Rat
(gene **eck protein tyrosine kinase** of, characterization of)
- IT Intestine, composition
Lung, composition
Ovary, composition
(gene **eck protein tyrosine kinase** of, of human, identification of)
- IT Molecular cloning
(of gene **eck protein tyrosine kinase** gene, of human epithelial cells)
- IT Protein sequences
(of gene **eck protein tyrosine kinase** and precursor, of human, complete)
- IT Phosphorylation, biological
(auto-, of gene **eck protein tyrosine kinase**, of human)
- IT Skin, composition
(epithelium, gene **eck protein tyrosine kinase**, of human, identification of)
- IT Deoxyribonucleic acid sequences
(**protein (tyrosine) kinase**-specifying, gene **eck**, of human, complete)
- IT Gene and Genetic element, animal
RL: BIOL (Biological study)
(**eck**, for **protein tyrosine kinase** of human epithelial cells, cloning and sequencing of)
- IT 134090-19-0 134090-20-3
RL: PRP (Properties)
(amino acid sequence of)

IT 80449-02-1
 RL: PRP (Properties)
 (gene **eck**, cDNA for, of human epithelial cell, cloning and
 sequence of)

IT 134094-00-1
 RL: PRP (Properties); BIOL (Biological study)
 (nucleotide sequence of)

IT 134093-99-5, Deoxyribonucleic acid (human clone OB18 gene **eck**
protein (tyrosine) kinase messenger
 RNA-complementary)
 RL: PRP (Properties)
 (nucleotide sequences)

=> => d 126 bib abs retable tot

L26 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:547699 HCAPLUS
 TI Targeted drug delivery using **epha2** or **eph4** binding moieties
 IN **Kinch, Michael S.**
 PA **Medimmune, Inc., USA**
 SO PCT Int. Appl., 231 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056766	A2	20050623	WO 2004-US41020	20041206
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2003-527396P	P	20031204		
	US 2004-4794	A	20041203		
	US 2004-4795	A	20041203		

AB The present invention relates to methods and compositions designed for the treatment, management, or prevention of a hyperproliferative cell disease, particularly cancer. The methods of the invention comprise the administration of an effective amount of a composition that targets cells expressing an Eph family receptor tyrosine kinase, such as **EphA2** or **EphA4**, for the treatment, management, or prevention of hyperproliferative diseases, particularly cancer. In one embodiment, the method of the invention comprises administering to a subject a composition comprising an **EphA2** or **EphA4** targeting moiety attached to a delivery vehicle, and one or more therapeutic or prophylactic agents that treat or prevent a hyperproliferative disease, where the therapeutic or prophylactic agents that treat or prevent a hyperproliferative disease, where the therapeutic or prophylactic agents are operatively associated with the delivery vehicle. In another embodiment, the method of the invention comprises administering to a subject a composition comprising a nucleic acid comprising a nucleotide sequence encoding an **EphA2** or **EphA4** targeting moiety and a therapeutic or prophylactic agent that

treats or prevents a hyperproliferative disease. In yet another embodiment, the method of the invention comprises administering to a subject a composition comprising an **EphA2** or **EphA4** targeting moiety and a nucleic acid comprising a nucleotide sequence encoding an agent that treats or prevents a hyperproliferative disease, where the nucleic acid is operatively associated with the delivery vehicle. Pharmaceutical compositions are also provided by the present invention.

L26 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:540463 HCAPLUS

TI **EphA2**-, **ephA4**-, and low molecular weight protein tyrosine phosphatase-based methods for treatment of hyperproliferative cell disorders

IN Kinch, Michael S.

PA Medimmune, Inc., USA

SO PCT Int. Appl., 240 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005055948	A2	20050623	WO 2004-US41023	20041206
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2003-527154P	P	20031204		
	US 2004-4794	A	20041203		
	US 2004-4795	A	20041203		

AB The invention discloses methods and compns. designed for treatment, management, or prevention of a hyperproliferative cell disease, in particular cancer. The methods comprise the administration of an effective amount of a composition that targets cells expressing low mol. weight protein tyrosine phosphatase (LMW-PTP) in particular using moieties that bind an Eph family receptor tyrosine kinase, such as **EphA2** or **EphA4**, and inhibits or reduces LMW-PTP expression and/or activity. In one embodiment, the method comprises administering to a subject a composition comprising an **EphA2** or **EphA4** targeting moiety attached to a delivery vehicle, and one or more agents that inhibit LMW-PTP expression and/or activity operatively associated with the delivery vehicle. In another embodiment, the method comprises administering to a subject a composition comprising a nucleic acid comprising a nucleotide sequence encoding an **EphA2** or **EphA4** targeting moiety and an agent that inhibits or reduces LMW-PTP expression and/or activity. In yet another embodiment, the method comprises administering to a subject a composition comprising an **EphA2** or **EphA4** targeting moiety and a nucleic acid comprising a nucleotide sequence encoding an agent that inhibits or reduces LMW-PTP expression and/or activity, where the nucleic acid is operatively associated with the delivery vehicle. Pharmaceutical compns. are also provided by the invention.

L26 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:493472 HCAPLUS
 TI **Epha2** agonistic monoclonal antibodies for diagnosis, prognosis
 and therapy of cancer and metastasis
 IN **Kinch, Michael S.**; Carles-Kinch, Kelly; Stewart, Jane C.
 PA **Medimmune, Inc., USA**; Purdue Research Foundation
 SO PCT Int. Appl., 134 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005051307	A2	20050609	WO 2004-US39112	20041119
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-524177P P 20031120

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of cancer, particularly, metastatic cancer. The methods of the invention comprise the administration of an effective amount of one or more antibodies that bind to and agonize **Epha2**, thereby increasing **Epha2** phosphorylation and decreasing **Epha2** levels in cells which **Epha2** has been agonized. The invention also encompasses antibodies that preferentially bind an **Epha2** epitope exposed on cancer cells but not non-cancer cells. The invention also provides pharmaceutical compns. comprising one or more **Epha2** antibodies of the invention either alone or in combination with one or more other agents useful for cancer therapy. In addition, diagnostic methods and methods for screening for therapeutically useful anti-**Epha2** antibodies are also provided.

L26 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:371065 HCAPLUS

DN 142:409704

TI Recombinant *Listeria* encoding **Epha2** antigen peptides as vaccines against cancer and proliferative diseases

IN **Kinch, Michael S.**; **Kiener, Peter A.**; Bruckheimer, Elisabeth; Dubensky, Thomas W., Jr.; Cook, David N.

PA **Medimmune, Inc., USA**; Cerus Corporation

SO PCT Int. Appl., 219 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005037233	A2	20050428	WO 2004-US34694	20041015
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRAI US 2003-511719P P 20031015
 US 2003-511919P P 20031015
 US 2003-532666P P 20031224
 US 2004-556631P P 20040326
 US 2004-615470P P 20041001
 US 2004-617544P P 20041007

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of cancer, particularly metastatic cancer and cancers of T cell origin, and hyperproliferative diseases involving **Epha2**-expressing cells. The methods of the invention entail the use of a Listeria-based **Epha2** vaccine. The invention also provides pharmaceutical compns. comprising one or more Listeria-based vaccines of the invention either alone in combination with one or more other agents useful for cancer therapy. In certain aspects of the invention, the method entail eliciting both CD4+ and CD8+ T-cell responses against **Epha2** and/or **Epha2**-expressing cells.

L26 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:343316 HCAPLUS

TI Antibody humanization by framework shuffling

AU Dall'Acqua, William F.; Damschroder, Melissa M.; Zhang, Jingli; Woods, Robert M.; Widjaja, Lusiana; Yu, Julie; Wu, Herren

CS Department of Antibody Discovery and Protein Engineering, **MedImmune**, Inc., Gaithersburg, MD, 20878, USA

SO Methods (San Diego, CA, United States) (2005), 36(1), 43-60
 CODEN: MTHDE9; ISSN: 1046-2023

PB Elsevier

DT Journal

LA English

AB We report here the humanization of a mouse monoclonal antibody (mAb B233) using a new technique which we call framework shuffling. MAb B233 was raised against the human receptor tyrosine kinase **Epha2** which is selectively up-regulated in many cancer cell lines and as such constitutes an attractive target for cancer therapy. The six CDRs of B233 were fused in-frame to pools of corresponding individual human frameworks. These human frameworks encompassed all known heavy and light (κ) chain human germline genes. The resulting Fab combinatorial libraries were then screened for binding to the antigen. A two-step selection process, in which the light and heavy chains of the parental mAb were successively humanized, resulted in the identification of several humanized variants that retained binding to **Epha2**. More precisely, after conversion to human IgG1, the dissociation consts. of three select fully humanized variants ranged from 3 to 48 nM. This brings the best framework-shuffled, humanized binder within 5-fold of the avidity of parental mAb B233. Importantly, these humanized IgGs also possessed biochem. activities similar to those of parental mAb B233 as judged by induction of **Epha2** phosphorylation. Thus, without requiring any rational design or structural information, this new humanization approach allows to rapidly identify various human framework combinations able to support the structural feature(s) of the CDRs which are essential for binding and functional activity.

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
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Amit, A	1986	233	747	Science	HCAPLUS
Banfield, M	1997	29	161	Proteins	HCAPLUS
Benhar, I	1994	91	12051	Proc Natl Acad Sci U	HCAPLUS
Boshart, M	1985	41	521	Cell	HCAPLUS
Boulianne, G	1984	312	643	Nature	HCAPLUS
Brensing-Kuppers, J	1997	191	173	Gene	HCAPLUS
Carles-Krunvainch, K	2002	62	2840	Cancer Res	
Carter, P	1992	89	4285	Proc Natl Acad Sci U	HCAPLUS
Coffman, K	2003	63	7907	Cancer Res	HCAPLUS
Crothers, D	1972	9	341	Immunochemistry	HCAPLUS
Eigenbrot, C	1994	18	49	Proteins	HCAPLUS
Foote, J	1992	224	487	J Mol Biol	HCAPLUS
Harris, W	1995		99	Antibody Therapeutic	
Hasholzner, U	1997	17	3055	Anticancer Res	MEDLINE
Hieter, P	1982	257	1516	J Biol Chem	HCAPLUS
Ho, S	1989	77	51	Gene	HCAPLUS
Holmes, M	1997	158	2192	J Immunol	HCAPLUS
Johnson, S	1997	176	1215	J Infect Dis	HCAPLUS
Johnsson, B	1991	198	268	Anal Biochem	HCAPLUS
Jones, P	1986	321	522	Nature	HCAPLUS
Kabat, E	1991			Sequences of Protein	
Kettleborough, C	1991	4	773	Protein Eng	HCAPLUS
Klee, G	2000	124	921	Arch Pathol Lab Med	HCAPLUS
Kohler, G	1975	256	495	Nature	MEDLINE
Kunkel, T	1987	154	367	Methods Enzymol	HCAPLUS
Kuus-Reichel, K	1994	1	365	Clin Diagn Lab Immun	MEDLINE
Matsuda, F	1998	188	1973	J Exp Med	
Muller, K	1998	261	149	Anal Biochem	HCAPLUS
Padlan, E	1991	28	489	Mol Immunol	HCAPLUS
Pichla, S	1997	119	6	J Struct Biol	HCAPLUS
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Queen, C	1989	86	10029	Proc Natl Acad Sci U	HCAPLUS
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Rosok, M	1996	271	22611	J Biol Chem	HCAPLUS
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Schable, K	1993	374	1001	Biol Chem Hoppe Seyl	MEDLINE
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Tan, P	2002	169	1119	J Immunol	HCAPLUS
Tangri, S	2002	9	2191	Curr Med Chem	HCAPLUS
Tramontano, A	1990	215	175	J Mol Biol	HCAPLUS
Verhoeven, M	1988	239	1534	Science	HCAPLUS
Wu, H	2003	207	197	Methods Mol Biol	HCAPLUS
Wu, H	2003	207	213	Methods Mol Biol	HCAPLUS

L26 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:182287 HCAPLUS

DN 142:278743

TI Humanization of antibodies by combinatorial library technology for immunodiagnosis and immunotherapy or gene therapy

IN Wu, Herren; Dall-Acqua, William; Damschroder, Melissa

PA Medimmune, Inc., USA

SO U.S. Pat. Appl. Publ., 130 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI US 2005048617 A1 20050303 US 2004-920899 20040818
 WO 2005042743 A2 20050512 WO 2004-US26953 20040818
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRAI US 2003-496367P P 20030818

AB The present invention relates to methods of reengineering or reshaping antibodies to reduce the immunogenicity of the antibodies, while maintaining the immunospecificity of the antibodies for an antigen. In particular, the present invention provides methods of producing antibodies immunospecific for an antigen by synthesizing a combinatorial library comprising complementarity determining regions (CDRs) from a donor antibody fused in frame to framework regions from a sub-bank of framework regions. The present invention also provides antibodies produced by the methods of the invention. Thus, preparation of humanize anti-human **EphA2** monoclonal antibodies B233 was exemplified.

L26 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:161005 HCAPLUS

DN 142:254576

TI Inhibitors of **EphA2**, PCDGF, and HAAH for combination therapy and diagnosis of prevention of hyperproliferative disorder, cancer and metastasis

IN **Kinch, Michael S.**; Carles-Kinch, Kelly; **Kiener, Peter**;
Langermann, Solomon; Mccarthy, Michael P.; Tice, David; Woessner,
 Richard

PA **Medimmune, Inc., USA**

SO PCT Int. Appl., 177 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005016381	A2	20050224	WO 2004-US23097	20040716
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-489036P P 20030721

AB The present invention relates to methods and compns. designed for the treatment, management, or prevention of a hyperproliferative disorder, particularly cancer, more particularly metastatic cancer. The methods of the invention comprise the administration of an effective amount of one or more agents that decrease/inhibit **EphA2** receptor tyrosine kinase

(EphA2) expression or activity in combination with one or more agents that decrease/inhibit PC cell derived growth factor (PCDGF) or human aspartyl (asparaginy) β -hydroxylase (HAAH) expression or activity. In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more EphA2, PCDGF, and/or HAAH agents of the invention that inhibit cancer cell colony formation in soft agar or tubular network formation in three-dimensional basement membrane or extracellular matrix preparation. The invention also provides pharmaceutical compns. comprising one or more EphA2 agents of the invention in combination with one or more PCDGF agents of the invention and/or one or more HAAH agents of the invention. In some embodiments, the agents of the invention can be administered with other cancer therapeutic agents that are not EphA2-, PCDGF-, or HAAH-based. Diagnostic methods and methods for screening for therapeutically useful agents of the invention are also provided.

L26 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:160740 HCAPLUS

DN 142:259976

TI Combinatorial preparation of humanized anti-interleukin 9 and anti-human EphA2 monoclonal antibodies, fragments and conjugates for screening, diagnosis and therapy

IN Wu, Herren; Dall-Acqua, William; Damschroder, Melissa

PA Medimmune, Inc., USA

SO U.S. Pat. Appl. Publ., 179 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005042664	A1	20050224	US 2004-923068	20040820
	WO 2005035575	A2	20050421	WO 2004-US27188	20040820
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI US 2003-497213P P 20030822

US 2003-510741P P 20031013

AB The present invention provides methods of re-engineering or re-shaping an antibody from a first species, wherein the re-engineered or re-shaped antibody does not elicit undesired immune response in a second species, and the re-engineered or re-shaped antibody retains substantially the same antigen binding-ability of the antibody from the first species. In accordance with the present invention, a combinatorial library comprising the CDRs of the antibody from the first species fused in frame with framework regions derived from a second species can be constructed and screened for the desired modified antibody heavy and light chains. In particular, the present invention provides methods utilizing low homol. acceptor antibody frameworks for efficiently humanizing an antibody or a fragment thereof. The present invention also provides antibodies produced by the methods of the invention.

L26 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:120967 HCAPLUS
 DN 142:217364
 TI Human **EphA2** protein T cell epitope agonists for ELISPOT assay
 and as vaccines against tumor overexpressing **EphA2**
 IN Storkus, Walter J.; Kinch, Michael S.
 PA University of Pittsburgh-of the Commonwealth System of Higher Education,
 USA; Medimmune, Inc.
 SO PCT Int. Appl., 115 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005012350	A2	20050210	WO 2004-US23931	20040722
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2005048550	A1	20050303	US 2004-897711	20040722
PRAI	US 2003-491046P	P	20030730		

AB **EphA2** T-cell epitope agonists are provided herein. The agonists include peptides corresponding to specific fragments of human **EphA2** protein containing one or more T-cell epitopes, and conservative derivs. thereof. The **EphA2** T-cell epitope agonists are useful in an assay, such as an ELISPOT assay, that may be used to determine and/or quantify a patient's immune responsiveness to **EphA2**. The agonists also are useful in methods of modulating a patient's immune reactivity to **EphA2**, which has substantial utility as a treatment for cancers that overexpress **EphA2**, such as renal cell carcinoma. The **EphA2** agonists also can be used to vaccinate a patient against **EphA2**, by in vivo or ex vivo methods.

L26 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:103328 HCAPLUS
 TI Expression of **EphA2** is prognostic of disease-free interval and overall survival in surgically treated patients with renal cell carcinoma
 AU Herrem, Christopher J.; Tatsumi, Tomohide; Olson, Kathleen S.; Shirai, Keisuke; Finke, James H.; Bukowski, Ronald M.; Zhou, Ming; Richmond, Amy L.; Derweesh, Ithaar; Kinch, Michael S.; Storkus, Walter J.
 CS Department of Immunology, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA
 SO Clinical Cancer Research (2005), 11(1), 226-231
 CODEN: CCREF4; ISSN: 1078-0432
 PB American Association for Cancer Research
 DT Journal
 LA English
 AB Whereas normally expressed at sites of cell-to-cell contact in adult epithelial tissues, recent studies have shown that the receptor tyrosine kinase **EphA2** is overexpressed in numerous epithelial-type carcinomas, with the greatest level of **EphA2** expression observed in metastatic lesions. In the current study, we have assessed **EphA2**

expression in archived renal cell carcinoma (RCC) tissues as it relates to patient disease course. Using specific anti-Epha2 monoclonal antibody 208 and immunohistochem. we evaluated Epha2 protein expression levels in RCC specimens surgically resected from 34 patients (including 30 conventional clear-cell RCC, 3 papillary, and 1 chromophobic RCC cases) resulting in clin. cures. Regardless of histopathol. subtype, RCC lesions expressing higher levels of Epha2 tended to be of a higher grade ($P < 0.05$) and larger ($P = 0.093$), more-highly-vascularized tumors ($P = 0.005$). Perhaps most notable, the degree of Epha2 overexpression (vs. normal matched autologous kidney tissue) seemed predictive of short-term (<1 yr) vs. longer-term (≥ 1 yr) disease-free interval ($P < 0.001$) and of overall survival ($P < 0.001$) among the RCC patients evaluated. These data suggest that Epha2 expression level may serve as a useful prognostic tool in the clin. management of patients who have been successfully treated with surgery, but who are at greater risk for accelerated disease recurrence and who have a poorer prognosis.

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Brantley, D	2002	21	7011	Oncogene	HCAPLUS
DeRisi, J	1996	14	457	Nat Genet	HCAPLUS
Duxbury, M	2004	23	1448	Oncogene	HCAPLUS
D'Amico, T	2001	72	1144	Ann Thorac Surg	MEDLINE
Easty, D	1995	55	2528	Cancer Res	HCAPLUS
Easty, D	1999	84	494	Int J Cancer	HCAPLUS
Eble, J	2004			WHO classification o	
Hendrix, M	2003	22	3070	Oncogene	HCAPLUS
Kataoka, H	2004	95	136	Cancer Sci	HCAPLUS
Kikawa, K	2002	277	39274	J Biol Chem	HCAPLUS
Kinch, M	2003	9	613	Clin Cancer Res	HCAPLUS
Kinch, M	2003	20	59	Clin Exp Metastasis	HCAPLUS
Lu, M	2003	63	3425	Cancer Res	HCAPLUS
Mellitzer, G	2000	10	400	Curr Opin Neurobiol	HCAPLUS
Miyazaki, T	2003	103	657	Int J Cancer	HCAPLUS
Ogawa, K	2000	19	6043	Oncogene	HCAPLUS
Stein, E	1998	12	667	Genes Dev	HCAPLUS
Straume, O	2002	160	1009	Am J Pathol	HCAPLUS
Tatsumi, T	2003	63	4481	Cancer Res	HCAPLUS
Thaker, P	2004	10	5145	Clin Cancer Res	HCAPLUS
Walker-Daniels, J	2003	162	1037	Am J Pathol	HCAPLUS
Walker-Daniels, J	1999	41	275	Prostate	HCAPLUS
Zantek, N	1999	10	629	Cell Growth Differ	HCAPLUS
Zelinski, D	2001	61	2301	Cancer Res	HCAPLUS
Zelinski, D	2002	85	714	J Cell Biochem	HCAPLUS
Zeng, G	2003	163	2271	Am J Pathol	HCAPLUS

L26 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:59831 HCAPLUS

DN 142:154248

TI Anti-Epha4 antibodies and agonists for diagnosis, prognosis and treatment of cancer and metastasis

IN Kinch, Michael S.; Carles-Kinch, Kelly

PA USA

SO U.S. Pat. Appl. Publ., 59 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005013819	A1	20050120	US 2004-863729	20040607
	WO 2005048917	A2	20050602	WO 2004-US18279	20040607
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VC, VN, YU, ZA, ZM, ZW,			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	US 2003-476909P	P	20030606		
	US 2003-503356P	P	20030916		
AB	<p>The present invention relates to methods and compns. designed for the treatment, management, or prevention of cancer, particularly, metastatic cancer. In one embodiment, the methods of the invention comprise the administration of an effective amount of one or more antibodies that bind to EphA4 and agonize EphA4. In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more antibodies that bind to EphA4 and inhibit cancer cell colony formation in soft agar or tubular network formation in three-dimensional basement membrane or extracellular matrix preparation. In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more antibodies that preferentially binds to an EphA4 epitope that is exposed on cancer cells but not non-cancer cells. In another embodiment, the methods of the invention comprise the administration of an effective amount of one or more antibodies that bind to EphA4 with a very low Koff to reduce EphA4 expression and, thereby, inhibit tumor cell growth and/or metastasis. The invention also provides pharmaceutical compns. comprising one or more EphA4 antibodies of the invention either alone or in combination with one or more other agents useful for cancer therapy.</p>				
L26	ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN				
AN	2004:930662 HCAPLUS				
DN	142:86069				
TI	Decreased tumorigenic potential of EphA2 -overexpressing breast cancer cells following treatment with adenoviral vectors that express EphrinA1				
AU	Noblitt, Loren W.; Bangari, Dinesh S.; Shukla, Shruti; Knapp, Deborah W.; Mohammed, Sulma; Kinch, Michael S.; Mittal, Suresh K.				
CS	Laboratory of Gene Therapy, Purdue University, West Lafayette, IN, 47907, USA				
SO	Cancer Gene Therapy (2004), 11(11), 757-766 CODEN: CGTHEG; ISSN: 0929-1903				
PB	Nature Publishing Group				
DT	Journal				
LA	English				
AB	<p>The EphA2 receptor tyrosine kinase is frequently overexpressed in invasive breast cancer cells. Moreover, these malignant cells have unstable cell-cell contacts, which preclude EphA2 from interacting with its ligand, EphrinA1, which is anchored to the membrane of adjacent cells. This defect is important because ligand binding causes EphA2 to transmit signals that neg. regulate tumor cell growth and survival, whereas the absence of ligand binding favors these same behaviors. In our present study, human adenoviral type 5 (HAD) vectors</p>				

were engineered to express secreted-forms of EphrinA1. These vectors were used to infect MDA-MB-231 human breast cancer cells, or MCF-10A human breast epithelial cells providing matched controls. Infection with HAd-EphrinA1-Fc (HAd vector expressing extracellular domain of human EphrinA1 attached to Fc portion of human IgG1 heavy chain) caused increased EphA2 activation and turnover and consequently decreased tumor cell viability in soft agar assays. Consistent with this observation, infection of MDA-MB-231 cells with HAd-EphrinA1-Fc prevented tumor formation in xenograft models. Furthermore, therapeutic modeling via intratumoral inoculation revealed that HAd-EphrinA1-Fc significantly inhibited subsequent tumor growth as compared to matched controls. These results suggest that targeting of EphA2 with adenoviral vectors may have therapeutic value.

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Addison, C	1995	92	8522	Proc Natl Acad Sci U	HCAPLUS
Akbulut, H	2003	10	388	Cancer Gene Ther	HCAPLUS
Ambar, B	1999	10	1641	Hum Gene Ther	HCAPLUS
Andres, A	1995	63	288	Int J Cancer	HCAPLUS
Bangari, D	2004			Virus Res, in press	
Bartley, T	1994	368	558	Nature	HCAPLUS
Carles-Kinch, K	2002	62	2840	Cancer Res	HCAPLUS
Chen, L	1996	22	477	Somat Cell Mol Genet	HCAPLUS
Coffman, K	2003	63	7907	Cancer Res	HCAPLUS
Curiel, D	2000	6	3395	Clin Cancer Res	HCAPLUS
Dickson, R	1995	16	559	Endocr Rev	HCAPLUS
Ding, Y	2002	8	3290	Clin Cancer Res	HCAPLUS
Dohn, M	2001	20	6503	Oncogene	HCAPLUS
Easty, D	1995	55	2528	Cancer Res	HCAPLUS
George, J	2003	10	1135	Gene Therapy	
Graham, F	1977	36	59	J Gen Virol	MEDLINE
Graham, F	1991		109	Methods of Molecular	HCAPLUS
Graham, F	1973	52	456	Virology	MEDLINE
Hitt, M	2000	55	479	Adv Virus Res	HCAPLUS
Kikawa, K	2002	277	39274	J Biol Chem	HCAPLUS
Kinch, M	2003	20	59	Clin Exp Metast	HCAPLUS
Kinch, M	1998	17	227	Hybridoma	HCAPLUS
Koolpe, M	2002	277	46974	J Biol Chem	HCAPLUS
Kullander, K	2001	29	73	Neuron	HCAPLUS
Liu, Y	2002	9	202	Cancer Gene Ther	HCAPLUS
Liu, Y	2002	9	533	Cancer Gene Ther	HCAPLUS
Miao, H	2001	3	527	Nat Cell Biol	HCAPLUS
Ng, P	1999	10	2667	Hum Gene Ther	HCAPLUS
Palmer, K	2001	8	282	Gene Therapy	HCAPLUS
Parks, R	1999	6	1565	Gene Therapy	HCAPLUS
Price, J	1986	77	529	J Natl Cancer Inst	MEDLINE
Rosenberg, I	1997	273	G824	Am J Physiol	HCAPLUS
Sambrook, J	2001			Molecular Cloning:A	
Stewart, A	1999	6	350	Gene Therapy	HCAPLUS
Trudel, S	2001	15	846	Leukemia	HCAPLUS
Vlachaki, M	2001	51	1008	Int J Radiat Oncol B	HCAPLUS
Walker-Daniels, J	2003	162	1037	Am J Pathol	HCAPLUS
Walker-Daniels, J	1999	41	275	Prostate	HCAPLUS
Wen, X	2001	8	361	Cancer Gene Ther	HCAPLUS
Zantek, N	1999	10	629	Cell Growth Differ	HCAPLUS
Zelinski, D	2001	61	2301	Cancer Res	HCAPLUS
Zisch, A	2000	19	177	Oncogene	HCAPLUS

L26 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:878784 HCAPLUS
 DN 142:4180
 TI **Epha2** Induction of Fibronectin Creates a Permissive
 Microenvironment for Malignant Cells
 AU Hu, Min; Carles-Kinch, Kelly L.; Zelinski, Daniel P.; **Kinch, Michael S.**
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 Gaithersburg, MD, USA
 SO Molecular Cancer Research (2004), 2(10), 533-540
 CODEN: MCROC5; ISSN: 1541-7786
 PB American Association for Cancer Research
 DT Journal
 LA English
 AB Normal and metastatic cells continuously exchange information with the
 surrounding tissue environment, and this communication governs many
 aspects of cell behavior. In particular, the phys. placement or adhesions
 of cells within their environment are increasingly understood to
 facilitate this communication. Classically, cell-cell and
 cell-extracellular matrix adhesions have been viewed as separable events
 that are independently controlled. This simple view is changing, as
 evidence emerges of coordinated regulation of cellular adhesions. Here,
 the authors show that the **Epha2** tyrosine kinase, which is
 overexpressed in many aggressive cancers, regulates a fine balance of
 cell-cell and cell-extracellular matrix adhesions in epithelial cells.
Epha2 selectively inhibits cell-cell adhesions by increasing cell
 attachment and up-regulating the extracellular matrix protein fibronectin.
 The authors also show that fibronectin can contribute to important aspects
 of malignant character. Antibody-based targeting of **Epha2**
 inhibits malignant cell growth by decreasing fibronectin and thereby
 inducing apoptotic death. These findings strengthen a concept that cancer
 progression is regulated by a bidirectional communication between tumor
 cells and their surrounding microenvironment.

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bartley, T	1994	368	558	Nature	HCAPLUS
Carles-Kinch, K	2002	62	2840	Cancer Res	HCAPLUS
Chiarugi, P	2004	23	3905	Oncogene	HCAPLUS
Coffman, K	2003	63	7907	Cancer Res	HCAPLUS
Cunha, G	2003	107	1	Int J Cancer	HCAPLUS
D'Amico, T	2001	72	1144	Ann Thorac Surg	MEDLINE
Easty, D	1999	84	494	Int J Cancer	HCAPLUS
Fidler, I	1995	87	1588	J Natl Cancer Inst	MEDLINE
Frisch, S	1997	9	701	Curr Opin Cell Biol	HCAPLUS
Hansen, R	2000	7	95	Endocr Relat Cancer	HCAPLUS
Hayward, S	1998	13	35	Int J Oncol	HCAPLUS
Hazlehurst, L	2001	20	43	Cancer Metastasis Re	HCAPLUS
Hendrix, M	2003	22	3070	Oncogene	HCAPLUS
Hess, A	2001	61	3250	Cancer Res	HCAPLUS
Howlett, A	1995	108	1945	J Cell Sci	HCAPLUS
Huhtala, P	1995	129	867	J Cell Biol	HCAPLUS
Hunter, T	1997	88	333	Cell	HCAPLUS
Juliano, R	1994	24	118	Princess Takamatsu S	MEDLINE
Keely, P	1998	8	101	Trends Cell Biol	HCAPLUS
Kikawa, K	2002	277	39274	J Biol Chem	HCAPLUS
Kinch, M	1995	23	446	Biochem Soc Trans	HCAPLUS
Kinch, M	2003	9	613	Clin Cancer Res	HCAPLUS
Kinch, M	2003	20	59	Clin Exp Metastasis	HCAPLUS

Koolpe, M	2002	277	46974	J Biol Chem	HCAPLUS
Li, L	1989	81	1406	J Natl Cancer Inst	MEDLINE
Lynch, C	2002	70	561	Differentiation	HCAPLUS
McCawley, L	2000	6	149	Mol Med Today	HCAPLUS
Miao, H	2000	2	62	Nat Cell Biol	HCAPLUS
Miao, H	2001	3	527	Nat Cell Biol	HCAPLUS
Miyazaki, T	2003	103	657	Int J Cancer	HCAPLUS
Nakamoto, M	2002	59	58	Microsc Res Tech	HCAPLUS
Ogawa, K	2000	19	6043	Oncogene	HCAPLUS
Olumi, A	1999	59	5002	Cancer Res	HCAPLUS
Onn, A	2002	16	423	In Vivo	
Park, C	2000	6	324	Mol Med Today	HCAPLUS
Radinsky, R	1995	31A	1091	Eur J Cancer	HCAPLUS
Rosenberg, I	1997	273	G824	Am J Physiol	HCAPLUS
Ruoslahti, E	1999	76	1	Adv Cancer Res	HCAPLUS
Steeg, P	2003	3	55	Nat Rev Cancer	HCAPLUS
Tlsty, T	2001	11	54	Curr Opin Genet Dev	HCAPLUS
Walker-Daniels, J	2003	162	1037	Am J Pathol	HCAPLUS
Walker-Daniels, J	2002	1	79	Mol Cancer Res	HCAPLUS
Walker-Daniels, J	1999	41	275	Prostate	HCAPLUS
Weaver, V	1999	4	193	J Mammary Gland Biol	MEDLINE
Welch, D	2000	2	408	Breast Cancer Res	HCAPLUS
Yu, J	2002	70	599	Differentiation	
Zantek, N	1999	10	629	Cell Growth Differ	HCAPLUS
Zelinski, D	2001	61	2301	Cancer Res	HCAPLUS
Zeng, G	2003	163	2271	Am J Pathol	HCAPLUS

L26 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:630173 HCAPLUS

DN 141:329420

TI **Epha2** Expression Is Associated with Aggressive Features in Ovarian Carcinoma

AU Thaker, Premal H.; Deavers, Michael; Celestino, Joseph; Thornton, Angela; Fletcher, Mavis S.; Landen, Charles N.; **Kinch, Michael S.**; **Kiener, Peter A.**; Sood, Anil K.

CS Department of Gynecologic Oncology, the University of Texas M. D. Anderson Cancer Center, Houston, TX, USA

SO Clinical Cancer Research (2004), 10(15), 5145-5150
CODEN: CCREF4; ISSN: 1078-0432

PB American Association for Cancer Research

DT Journal

LA English

AB PURPOSE: **Epha2** (epithelial cell kinase) is a transmembrane receptor tyrosine kinase that has been implicated in oncogenesis. There are no published data regarding the role of **Epha2** in ovarian carcinoma, which is the focus of the present study. Exptl. Design: Nontransformed (HIO-180) and ovarian cancer (EG, 222, SKOV3, and A2780-PAR) cell lines were evaluated for **Epha2** by Western blot anal. Five benign ovarian masses, 10 ovarian tumors of low malignant potential, and 79 invasive ovarian carcinomas were also evaluated for **Epha2** expression by immunohistochem. All samples were scored in a blinded fashion. Univariate and multivariate analyses were used to determine significant assocns. between **Epha2** expression and clinicopathol. variables. RESULTS: By Western blot anal., EG, 222, and SKOV3 cell lines overexpressed **Epha2**, whereas A2780-PAR and HIO-180 had low to absent **Epha2** expression. All of the benign tumors had low or absent **Epha2** expression. Among the invasive ovarian carcinomas examined (mean age of patients was 59.2 yr), 60 (75.9%) tumors overexpressed **Epha2** and the other 19 tumors had neg. or minimal **Epha2** expression. There was no association of **Epha2** overexpression with

ascites, likelihood of nodal positivity, pathol. subtype, and optimum surgical cytoredn. (residual tumor <1 cm). However, **Epha2** overexpression was significantly associated with higher tumor grade ($P = 0.02$) and advanced stage of disease ($P = 0.001$). The median survival for patients with tumor **Epha2** overexpression was significantly shorter (median, 3.1 yr; $P = 0.004$); the median survival for patients with low or absent **Epha2** tumor expression was at least 12 yr and has not yet been reached. In multivariate anal. using the Cox proportional hazards model, only volume of residual disease ($P < 0.04$) and **Epha2** overexpression ($P < 0.01$) were significant and independent predictors of survival. CONCLUSIONS: **Epha2** overexpression is predictive of aggressive ovarian cancer behavior and may be an important therapeutic target.

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Andres, A	1994	9	1461	Oncogene	HCAPLUS
Auersperg, N	1999	96	6249	Proc Natl Acad Sci U	HCAPLUS
Birchmeier, W	1996	213	117	Curr Top Microbiol I	HCAPLUS
Carles-Kinch, K	2002	62	2840	Cancer Res	HCAPLUS
Coffman, K	2003	63	7907	Cancer Res	HCAPLUS
Dodelet, V	2000	19	5614	Oncogene	HCAPLUS
Dohn, M	2001	20	6503	Oncogene	HCAPLUS
Drescher, U	1997	7	75	Curr Opin Neurobiol	HCAPLUS
du Bois, A	1999	10	35	Ann Oncol	
Easty, D	2000	10	401	Melanoma Res	HCAPLUS
Flanagan, J	1998	21	309	Annu Rev Neurosci	HCAPLUS
Flanagan, J	1997	90	403	Cell	HCAPLUS
Gale, N	1996	17	9	Neuron	HCAPLUS
Ganju, P	1994	9	1613	Oncogene	HCAPLUS
Geiger, B	1992	57	631	Cold Spring Harb Sym	HCAPLUS
Hainaut, P	2000	77	81	Adv Cancer Res	HCAPLUS
Hendrix, M	2001	98	8018	Proc Natl Acad Sci U	HCAPLUS
Hess, A	2001	61	3250	Cancer Res	HCAPLUS
Hess, A	2002	43	36	Proc Am Assoc Cancer	
Hirai, H	1987	238	1717	Science (Wash DC)	HCAPLUS
Hunter, T	1992	57	25	Cold Spring Harb Sym	HCAPLUS
Jemal, A	2003	53	5	CA Cancer J Clin	
Kikawa, K	2002	277	39274	J Biol Chem	HCAPLUS
Kinch, M	1995	23	446	Biochem Soc Trans	HCAPLUS
Kinch, M	2003	20	59	Clin Exp Metastasis	HCAPLUS
Koolpe, M	2002	277	46974	J Biol Chem	HCAPLUS
Lamorte, L	2001	10	271	Surg Oncol Clin N Am	MEDLINE
Lindberg, R	1990	10	6316	Mol Cell Biol	HCAPLUS
McGuire, W	1996	334	1	N Engl J Med	HCAPLUS
Miao, H	2000	2	62	Nat Cell Biol	HCAPLUS
Miao, H	2001	3	527	Nat Cell Biol	HCAPLUS
Miyazaki, T	2003	103	657	Int J Cancer	HCAPLUS
Nakamoto, M	2002	59	58	Microsc Res Tech	HCAPLUS
Ogawa, K	2000	19	6043	Oncogene	HCAPLUS
Orioli, D	1997	13	354	Trends Genet	HCAPLUS
Pandey, A	1994	269	30154	J Biol Chem	HCAPLUS
Pandey, A	1995	270	19201	J Biol Chem	HCAPLUS
Pandey, A	1995	268	567	Science (Wash DC)	HCAPLUS
Pejovic, T	1995	27	73	Ann Med	MEDLINE
Pratt, R	2002	21	7690	Oncogene	HCAPLUS
Rosenberg, I	1997	273	G824	Am J Physiol	HCAPLUS
Sood, A	2001	158	1279	Am J Pathol	HCAPLUS
Sood, A	2002	1	661	Cancer Biol Ther	

Sood, A	1999	5	2485	Clin Cancer Res	HCAPLUS
Sood, A	2002	9	2	J Soc Gyn Invest	
Straume, O	2002	160	1009	Am J Pathol	HCAPLUS
Sultan, E	1997	40	371	Genomics	
Vousden, K	2002	1602	47	Biochem Biophys Acta	HCAPLUS
Walker-Daniels, J	2003	162	1037	Am J Pathol	HCAPLUS
Walker-Daniels, J	2002	1	79	Mol Cancer Res	HCAPLUS
Walker-Daniels, J	1999	41	275	Prostate	HCAPLUS
Zantek, N	1999	10	629	Cell Growth Differ	HCAPLUS
Zeliniski, D	2001	61	2301	Cancer Res	
Zetter, B	1993	4	219	Semin Cancer Biol	HCAPLUS

=> => fil medline

FILE 'MEDLINE' ENTERED AT 12:31:34 ON 07 JUL 2005

FILE LAST UPDATED: 6 JUL 2005 (20050706/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow.prompt (=>). See also:

<http://www.nlm.nih.gov/mesh/>
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all tot

L52 ANSWER 1 OF 11 MEDLINE on STN
 AN 2003596894 MEDLINE
 DN PubMed ID: 14679012
 TI **EphA2** as target of anticancer immunotherapy: identification of HLA-A*0201-restricted epitopes.
 AU Alves Pedro M S; Faure Olivier; Graff-Dubois Stephanie; Gross David-Alexandre; Cornet Sebastien; Chouaib Salem; Miconnet Isabelle; Lemonnier Francois A; Kosmatopoulos Kostas
 CS INSERM487, Institut Gustave Roussy, Villejuif. Unite d'Immune Cellulaire Antivirale, Institut Pasteur, Paris. Immuno-Designed Molecules, Paris, France.
 SO Cancer research, (2003 Dec 1) 63 (23) 8476-80.
 Journal code: 2984705R. ISSN: 0008-5472.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200402
 ED Entered STN: 20031218
 Last Updated on STN: 20040302
 Entered Medline: 20040227
 AB **EphA2** (Eck) is a tyrosine kinase receptor that is overexpressed in several human cancers such as breast, colon, lung, prostate, gastric carcinoma, and metastatic melanoma but not in nonmalignant counterparts.

To validate **Epha2** as a tumor antigen recognized by CD8+ T lymphocytes, we used reverse immunology approach to identify HLA-A*0201-restricted epitopes. Peptides bearing the HLA-A*0201-specific anchor motifs were analyzed for their capacity to bind and stabilize the HLA-A*0201 molecules. Two peptides, **Epha2**(58) and **Epha2**(550), with a high affinity for HLA-A*0201 were selected. Both peptides were immunogenic in the HLA-A*0201-transgenic HHD mice. Interestingly, peptide-specific murine CTLs cell lines responded to COS-7 cells coexpressing HLA-A*0201 and **Epha2** and to **Epha2**-positive human tumor cells of various origin (renal cell, lung, and colon carcinoma and sarcoma). This demonstrates that **Epha2**(58) and **Epha2**(550) are naturally processed from endogenous **Epha2**. In addition, **Epha2**(58) and **Epha2**(550) stimulated specific CD8(+) T cells from healthy donor peripheral blood mononuclear cells. These T cells recognized **Epha2**-positive human tumor cells in an HLA-A*0201-restricted manner. Interestingly, **Epha2**-specific CD8+ T cells were detected in the peripheral blood mononuclear cells of prostate cancer patients. These results show for the first time that **Epha2** is a tumor rejection antigen and lead us to propose **Epha2**(58) and **Epha2**(550) peptides for a broad-spectrum-tumor immunotherapy.

CT Animals
 CD8-Positive T-Lymphocytes: IM, immunology
 COS Cells
 Cell Line, Tumor
 Cercopithecus aethiops
 Epitope Mapping
 Epitopes, T-Lymphocyte: IM, immunology
 *HLA-A Antigens: IM, immunology
 *Immunotherapy: MT, methods
 Lymphocyte Activation: IM, immunology
 Mice
 Mice, Transgenic
 Neoplasms: EN, enzymology
 Neoplasms: IM, immunology
 *Neoplasms: TH, therapy
 *Peptide Fragments: IM, immunology
 Peptide Fragments: PD, pharmacology
 *Receptor, **Epha2**: IM, immunology
 Research Support, Non-U.S. Gov't
 T-Lymphocytes, Cytotoxic: IM, immunology
 CN 0 (Epitopes, T-Lymphocyte); 0 (HLA-A Antigens); 0 (HLA-A*0201 antigen); 0 (Peptide Fragments); EC 2.7.1.112 (Receptor, **Epha2**)

L52 ANSWER 2 OF 11 MEDLINE on STN
 AN 2003282791 MEDLINE
 DN PubMed ID: 12810680
 TI **Epha2** overexpression decreases estrogen dependence and tamoxifen sensitivity.
 AU Lu Ming; Miller Kathy D; Gokmen-Polar Yesim; Jeng Meei-Huey; Kinch Michael S
 CS Department of Basic Medical Sciences, Purdue University Cancer Center, West Lafayette, Indiana 47907, USA.
 NC CA91318 (NCI)
 SO Cancer research, (2003 Jun 15) 63 (12) 3425-9.
 Journal code: 2984705R. ISSN: 0008-5472.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals

EM 200307
ED Entered STN: 20030618
Last Updated on STN: 20030729
Entered Medline: 20030728
AB The **EphA2** receptor tyrosine kinase is found at low levels on nontransformed adult breast epithelial cells but is frequently overexpressed on aggressive breast cancer cells. Recent studies have documented an inverse relationship between **EphA2** and estrogen receptor expression in breast cancer cell lines. In our present study, we demonstrate that overexpression of **EphA2** decreases estrogen dependence as defined using both in vitro and in vivo criteria. The **EphA2**-transfected cells demonstrate increased growth in vitro and form larger and more aggressive tumors in vivo. **EphA2** overexpression also decreases the ability of tamoxifen to inhibit breast cancer cell growth and tumorigenesis. These effects of **EphA2** overexpression can be overcome by antibody-based targeting of **EphA2**. In particular, certain **EphA2** antibodies can resensitize **EphA2**-overexpressing breast tumor cells to tamoxifen. These results have important implications for understanding the molecular basis underlying estrogen dependence and provide further evidence that **EphA2** may provide a much-needed therapeutic target for breast cancer.

CT Check Tags: Female
Adenocarcinoma: ME, metabolism
*Adenocarcinoma: PA, pathology
Animals
Antibodies, Monoclonal: PD, pharmacology
*Antineoplastic Agents, Hormonal: PD, pharmacology
Breast Neoplasms: ME, metabolism
*Breast Neoplasms: PA, pathology
*Drug Resistance, Neoplasm
Estradiol: PD, pharmacology
*Estrogen Receptor Modulators: PD, pharmacology
*Estrogens
Genes, Reporter
Humans
Mice
Mice, Nude
Neoplasm Invasiveness
*Neoplasm Proteins: ME, metabolism
Neoplasm Transplantation
Neoplasms, Hormone-Dependent: ME, metabolism
*Neoplasms, Hormone-Dependent: PA, pathology
Receptor, **EphA2**: AI, antagonists & inhibitors
Receptor, **EphA2**: GE, genetics
Receptor, **EphA2**: IM, immunology
*Receptor, **EphA2**: PH, physiology
*Receptors, Estrogen: ME, metabolism
Recombinant Fusion Proteins: PH, physiology
Research Support, Non-U.S. Gov't
Research Support, U.S. Gov't, Non-P.H.S.
Research Support, U.S. Gov't, P.H.S.
Stress
*Tamoxifen: PD, pharmacology
Tumor Cells, Cultured: ME, metabolism
Tumor Cells, Cultured: PA, pathology
Xenograft Model Antitumor Assays

RN 10540-29-1 (Tamoxifen); 50-28-2 (Estradiol)
CN 0 (Antibodies, Monoclonal); 0 (Antineoplastic Agents, Hormonal); 0 (Estrogen Receptor Modulators); 0 (Estrogens); 0 (Neoplasm Proteins); 0

(Receptors, Estrogen); 0 (Recombinant Fusion Proteins); EC 2.7.1.112
(Receptor, **EphA2**)

L52 ANSWER 3 OF 11 MEDLINE on STN
 AN 2003136340 MEDLINE
 DN PubMed ID: 12651595
 TI Differential regulation of **EphA2** in normal and malignant cells.
 AU Walker-Daniels Jennifer; Hess Angela R; Hendrix Mary J C; Kinch Michael S
 CS Department of Basic Medical Sciences, Purdue University Cancer Center,
 West Lafayette, Indiana, USA.
 NC 1 R21 CA85615 (NCI)
 2 R37 CA59702 (NCI)
 2 T32 CA79445-03 (NCI)
 SO American journal of pathology, (2003 Apr) 162 (4) 1037-42. Ref:
 74
 Journal code: 0370502. ISSN: 0002-9440.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 200306
 ED Entered STN: 20030325
 Last Updated on STN: 20030613
 Entered Medline: 20030612
 CT *Gene Expression Regulation: PH, physiology
 *Gene Expression Regulation, Neoplastic: PH, physiology
 Humans
 *Neoplasms: GE, genetics
 *Neoplasms: PA, pathology
 *Receptor, **EphA2**: GE, genetics
 Reference Values
 Research Support, U.S. Gov't, Non-P.H.S.
 Research Support, U.S. Gov't, P.H.S.
 Signal Transduction
 CN EC 2.7.1.112 (Receptor, **EphA2**)

L52 ANSWER 4 OF 11 MEDLINE on STN
 AN 2003135956 MEDLINE
 DN PubMed ID: 12650608
 TI Overexpression and functional alterations of the **EphA2** tyrosine
 kinase in cancer.
 AU Kinch Michael S; Carles-Kinch Kelly
 CS MedImmune, Inc., Gaithersburg, Maryland 20878, USA.. kinchm@medimmune.com
 SO Clinical & experimental metastasis, (2003) 20 (1) 59-68. Ref:
 92
 Journal code: 8409970. ISSN: 0262-0898.
 CY Netherlands
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LA English
 FS Priority Journals
 EM 200303
 ED Entered STN: 20030325
 Last Updated on STN: 20030401
 Entered Medline: 20030331
 AB Cancer is a disease of aberrant signal transduction. The expression and
 function of intracellular signaling pathways are frequently subverted as

cells progress towards a metastatic phenotype. In particular, tyrosine kinases initiate powerful signals that govern many different aspects of cell behavior. In Recent studies have demonstrated that the **EphA2** receptor tyrosine kinase is frequently overexpressed and functionally altered in aggressive tumor cells, and that these changes promote metastatic character. Herein, we provide an overview of our current understanding of **EphA2**, with emphasis upon the differential regulation of **EphA2** expression and function. We also show that differential **EphA2** expression and function may provide a unique opportunity for selective therapeutic targeting of **EphA2** in metastatic disease.

CT Gene Expression Regulation, Neoplastic
 Humans
 Models, Biological
 Neoplasm Metastasis
 Neoplasms: GE, genetics
 *Neoplasms: ME, metabolism
 Neoplasms: PA, pathology
 Nervous System: EM, embryology
 Nervous System: EN, enzymology
 Nervous System: GD, growth & development
 Receptor, **EphA2**: GE, genetics
 *Receptor, **EphA2**: ME, metabolism
 Receptor, **EphA2**: PH, physiology
 CN EC 2.7.1.112 (Receptor, **EphA2**)

L52 ANSWER 5 OF 11 MEDLINE on STN

AN 2003066115 MEDLINE

DN PubMed ID: 12576426

TI Predictive value of the **EphA2** receptor tyrosine kinase in lung cancer recurrence and survival.

AU Kinch Michael S; Moore Mary-Beth; Harpole David H Jr

CS MedImmune, Inc., Gaithersburg, Maryland 20878, USA.

SO Clinical cancer research : an official journal of the American Association for Cancer Research, (2003 Feb) 9 (2) 613-8.
 Journal code: 9502500. ISSN: 1078-0432.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200308

ED Entered STN: 20030211

Last Updated on STN: 20030802

Entered Medline: 20030801

AB PURPOSE: Underestimation of disease severity is a major problem confronting the successful clinical management of non-small cell lung cancer. Recent advances in molecular biological substaging may provide an opportunity to identify those patients with the most aggressive forms of the disease, but there is a continuing need for accurate markers of disease relapse and survival. EXPERIMENTAL DESIGN: In our present study, immunohistochemical analyses of a retrospective database of pathologic specimens were used to demonstrate that the **EphA2** receptor kinase is frequently overexpressed in NSCLC. RESULTS: Initial presentation with high levels of **EphA2** predicts subsequent survival, overall relapse, and site of relapse. Specifically, high levels of **EphA2** in the primary tumor predict brain metastases, whereas low levels of **EphA2** relate to disease-free survival or contralateral lung metastasis. CONCLUSIONS: These data suggest that **EphA2** may provide a molecular marker to identify and predict patients who have isolated brain metastases. Moreover, the high levels of

EphA2 in lung cancer may provide an opportunity for therapeutic targeting.

CT Check Tags: Female; Male
 Brain Neoplasms: PA, pathology
 Brain Neoplasms: SC, secondary
 Carcinoma, Non-Small-Cell Lung: MO, mortality
 *Carcinoma, Non-Small-Cell Lung: PA, pathology
 Disease-Free Survival
 Humans
 Immunohistochemistry
 Lung Neoplasms: MO, mortality
 *Lung Neoplasms: PA, pathology
 Lung Neoplasms: SC, secondary
 Middle Aged
 Neoplasm Metastasis
 Neoplasm Staging
 Predictive Value of Tests
 *Receptor, EphA2: ME, metabolism
 Recurrence
 Survival Analysis
 Survival Rate
 Time Factors
 Tumor Markers, Biological: ME, metabolism
 CN 0 (Tumor Markers, Biological); EC 2.7.1.112 (Receptor, **EphA2**)

L52 ANSWER 6 OF 11 MEDLINE on STN
 AN 2002734145 MEDLINE
 DN PubMed ID: 12496364
 TI Blockade of EphA receptor tyrosine kinase activation inhibits vascular endothelial cell growth factor-induced angiogenesis.
 AU Cheng Nikki; Brantley Dana M; Liu Hua; Lin Qin; Enriquez Miriam; Gale Nick; Yancopoulos George; Cerretti Douglas Pat; Daniel Thomas O; Chen Jin
 CS Department of Cancer Biology, Medicine, Vanderbilt University School of Medicine, Nashville, TN 37232, USA.
 NC DK47078 (NIDDK)
 HD36400 (NICHD)
 P30CA68485 (NCI)
 T-32 CA09592 (NCI)
 T32-HL-07751-06 (NHLBI)
 SO Molecular cancer research : MCR, (2002 Nov) 1 (1) 2-11.
 Journal code: 101150042. ISSN: 1541-7786.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200306
 ED Entered STN: 20021227
 Last Updated on STN: 20030612
 Entered Medline: 20030611
 AB Angiogenesis is a multistep process involving a diverse array of molecular signals. Ligands for receptor tyrosine kinases (RTKs) have emerged as critical mediators of angiogenesis. Three families of ligands, vascular endothelial cell growth factors (VEGFs), angiopoietins, and ephrins, act via RTKs expressed in endothelial cells. Recent evidence indicates that VEGF cooperates with angiopoietins to regulate vascular remodeling and angiogenesis in both embryogenesis and tumor neovascularization. However, the relationship between VEGF and ephrins remains unclear. Here we show that interaction between EphA RTKs and ephrinA ligands is necessary for induction of maximal neovascularization by VEGF. **EphA2** RTK is activated by VEGF through induction of ephrinA1 ligand. A soluble

EphA2-Fc receptor inhibits VEGF-, but not basic fibroblast growth factor-induced endothelial cell survival, migration, sprouting, and corneal angiogenesis. As an independent, but complementary approach, **EphA2** antisense oligonucleotides inhibited endothelial expression of **EphA2** receptor and suppressed ephrinA1- and VEGF-induced cell migration. Taken together, these data indicate an essential role for EphA receptor activation in VEGF-dependent angiogenesis and suggest a potential new target for therapeutic intervention in pathogenic angiogenesis.

CT *Angiogenesis Inhibitors: PD, pharmacology
 Animals
 Apoptosis: DE, drug effects
 Cell Division: DE, drug effects
 Cell Movement: DE, drug effects
 Cell Survival: DE, drug effects
 Cells, Cultured
 Corneal Neovascularization
 *Endothelial Growth Factors: AI, antagonists & inhibitors
 Endothelium, Vascular: CY, cytology
 *Endothelium, Vascular: DE, drug effects
 Endothelium, Vascular: PH, physiology
 *Enzyme Activation: PH, physiology
 Ephrin-A1: ME, metabolism
 Ephrin-A1: PD, pharmacology
 Fibroblast Growth Factor 2: PD, pharmacology
 Humans
 Intercellular Signaling Peptides and Proteins
 *Lymphokines: AI, antagonists & inhibitors
 Mice
 Mice, Inbred C57BL
 *Neovascularization, Physiologic: DE, drug effects
 Oligonucleotides, Antisense: PD, pharmacology
 Phosphorylation
 *Receptor, **EphA2**: AI, antagonists & inhibitors
 Receptor, **EphA2**: ME, metabolism
 Research Support, Non-U.S. Gov't
 Research Support, U.S. Gov't, P.H.S.
 Umbilical Veins: CY, cytology
 Vascular Endothelial Growth Factor A
 Vascular Endothelial Growth Factors
 RN 103107-01-3 (Fibroblast Growth Factor 2)
 CN 0 (Angiogenesis Inhibitors); 0 (Endothelial Growth Factors); 0 (Ephrin-A1); 0 (Intercellular Signaling Peptides and Proteins); 0 (Lymphokines); 0 (Oligonucleotides, Antisense); 0 (Vascular Endothelial Growth Factor A); 0 (Vascular Endothelial Growth Factors); EC 2.7.1.112 (Receptor, **EphA2**)
 L52 ANSWER 7 OF 11 MEDLINE on STN
 AN 2002730653 MEDLINE
 DN PubMed ID: 12494475
 TI **EphA2** overexpression correlates with poor prognosis in esophageal squamous cell carcinoma.
 AU Miyazaki Tatsuya; Kato Hiroyuki; Fukuchi Minoru; Nakajima Masanobu; Kuwano Hiroyuki
 CS Department of Surgery I, Gunma University Faculty of Medicine, Gunma, Japan.. tatsuyam@showa.gunma-u.ac.jp
 SO International journal of cancer. Journal international du cancer, (2003 Feb 20) 103 (5) 657-63.
 Journal code: 0042124. ISSN: 0020-7136.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)

LA English
 FS Priority Journals
 EM 200302
 ED Entered STN: 20021221
 Last Updated on STN: 20030207
 Entered Medline: 20030206

AB **Epha2** is a member of the Eph family of receptor tyrosine kinases, which interact with cell-bound ligands known as ephrins. **Epha2** expression was investigated by immunohistochemistry with an anti-**Epha2** monoclonal antibody in 80 patients with esophageal squamous cell carcinoma (ESCC) who had undergone surgery. **Epha2** overexpression was positive in 40 of the 80 patients (50%). A significant correlation was observed between **Epha2** expression and regional lymph node metastasis ($p=0.023$), number of lymph node metastases ($p=0.011$) and poor degree of tumor differentiation ($p=0.004$). The survival rates of **Epha2**-positive patients were poorer than those of **Epha2**-negative patients ($p=0.014$). The 5-year survival rate of patients without **Epha2** overexpression was 68%, whereas that of patients with **Epha2** overexpression was 29%. **Epha2** expression was also investigated in 7 ESCC cell lines (TE-1, -2, -8, -13, -15, TT and TTN) and 1 immortalized human esophageal keratinocyte cell line (CHEK-1). Western blotting revealed different levels of **Epha2** expression in the 8 cell lines. **Epha2** was expressed at a high level in the ESCC cell lines compared to CHEK-1. **Epha2** phosphorylation was demonstrated in all cell lines. Northern blot analysis showed that **Epha2** mRNA expression in TE-1 was greater than that in the other ESCC cell lines. The observation of small gaps on Western blot analysis of the ESCC cell lines suggests that there may be a mechanism for **Epha2** regulation at the point of translation. In conclusion, **Epha2** overexpression appears to be related to poor degree of tumor differentiation and lymph node metastasis in ESCC. Consequently, patients with **Epha2** overexpression have a poorer prognosis than those without. **Epha2** is a potential target to prevent ESCC cells spreading into the lymphatic drainage.
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CT Check Tags: Comparative Study; Female; Male
 Adult
 Aged
 Blotting, Northern
 Blotting, Western
 *Carcinoma, Squamous Cell: GE, genetics
 Carcinoma, Squamous Cell: ME, metabolism
 Carcinoma, Squamous Cell: SC, secondary
 Cysteine Proteinase Inhibitors: PD, pharmacology
 DNA, Neoplasm: AN, analysis
 Ephrin-A1: ME, metabolism
 Ephrin-A1: PD, pharmacology
 *Esophageal Neoplasms: GE, genetics
 Esophageal Neoplasms: ME, metabolism
 Esophageal Neoplasms: PA, pathology
 Gene Expression Regulation, Neoplastic
 Humans
 Immunoenzyme Techniques
 Leupeptins: PD, pharmacology
 Lymphatic Metastasis: GE, genetics
 Middle Aged
 Mutation
 Phosphorylation
 Prognosis
 Protein-Tyrosine Kinase: ME, metabolism

RNA, Neoplasm: ME, metabolism
Receptor, EphA2: GE, genetics
*Receptor, EphA2: ME, metabolism
Survival Rate
Tumor Cells, Cultured

RN 133407-82-6 (benzyloxycarbonylleucyl-leucyl-leucine aldehyde)
CN 0 (Cysteine Proteinase Inhibitors); 0 (DNA, Neoplasm); 0 (Ephrin-A1); 0 (Leupeptins); 0 (RNA, Neoplasm); EC 2.7.1.112 (Protein-Tyrosine Kinase); EC 2.7.1.112 (Receptor, EphA2); EC 2.7.1.112 (focal adhesion kinase)

L52 ANSWER 8 OF 11 MEDLINE on STN
AN 2002696033 MEDLINE
DN PubMed ID: 12351647
TI An ephrin mimetic peptide that selectively targets the EphA2 receptor.
AU Koolpe Mitchell; Dail Monique; Pasquale Elena B
CS Burnham Institute, La Jolla, California 92037, USA.
NC CA82713 (NCI)
SO Journal of biological chemistry, (2002 Dec 6) 277 (49) 46974-9.
Electronic Publication: 2002-09-25.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200302
ED Entered STN: 20021217
Last Updated on STN: 20030205
Entered Medline: 20030204

AB Eph receptor tyrosine kinases represent promising disease targets because they are differentially expressed in pathologic versus normal tissues. The EphA2 receptor is up-regulated in transformed cells and tumor vasculature where it likely contributes to cancer pathogenesis. To exploit EphA2 as a therapeutic target, we used phage display to identify two related peptides that bind selectively to EphA2 with high affinity (submicromolar K(D) values). The peptides target the ligand-binding domain of EphA2 and compete with ephrin ligands for binding. Remarkably, one of the peptides has ephrin-like activity in that it stimulates EphA2 tyrosine phosphorylation and signaling. Furthermore, this peptide can deliver phage particles to endothelial and tumor cells expressing EphA2. In contrast, peptides corresponding to receptor-interacting portions of ephrin ligands bind weakly and promiscuously to many Eph receptors. Bioactive ephrin mimetic peptides could be used to selectively deliver agents to Eph receptor-expressing tissues and modify Eph signaling in therapies for cancer, pathological angiogenesis, and nerve regeneration.

CT Amino Acid Sequence
Dose-Response Relationship, Drug
Endothelium, Vascular: CY, cytology
Enzyme-Linked Immunosorbent Assay
*Ephrins: CH, chemistry
Humans
Hydrogen-Ion Concentration
Immunoblotting
Kinetics
Ligands
Molecular Sequence Data
Peptides: CH, chemistry
Phosphorylation

Plasmids: ME, metabolism
 Precipitin Tests
 Protein Binding
 Protein Structure, Tertiary
 Protein-Tyrosine Kinase: ME, metabolism
 *Receptor, EphA2: CH, chemistry
 Receptor, EphA2: ME, metabolism
 Research Support, Non-U.S. Gov't
 Research Support, U.S. Gov't, Non-P.H.S.
 Research Support, U.S. Gov't, P.H.S.
 Sequence Homology, Amino Acid
 Signal Transduction
 Tyrosine: ME, metabolism
 Umbilical Veins: ME, metabolism

RN 55520-40-6 (Tyrosine)

CN 0 (Ephrins); 0 (Ligands); 0 (Peptides); 0 (Plasmids); EC 2.7.1.112
 (Protein-Tyrosine Kinase); EC 2.7.1.112 (Receptor, EphA2)

L52 ANSWER 9 OF 11 MEDLINE on STN

AN 2002398166 MEDLINE

DN PubMed ID: 12147253

TI Negative regulation of EphA2 receptor by Cbl.

AU Wang You jie; Ota Satoshi; Kataoka Hideki; Kanamori Masao; Li Zhong you;
 Band Hamid; Tanaka Masamitsu; Sugimura Haruhiko

CS First Department of Pathology, Hamamatsu University School of Medicine,
 1-20-1, Handayama, 431-3192, Hamamatsu, Japan.

NC CA75075 (NCI)

CA76118 (NCI)

CA87986 (NCI)

SO Biochemical and biophysical research communications, (2002 Aug 9)
 296 (1) 214-20.

Journal code: 0372516. ISSN: 0006-291X.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200209

ED Entered STN: 20020731

Last Updated on STN: 20020907

Entered Medline: 20020906

AB The c-Cbl proto-oncogene product Cbl has emerged as a negative regulator of receptor and non-receptor tyrosine kinases, a function dependent on its recently identified ubiquitin ligase activity. Here, we report that EphA2, a member of Eph receptor tyrosine kinases is negatively regulated by Cbl. The negative regulation of EphA2 mediated by Cbl is dependent on the activity of EphA2, as the kinase inactive mutant of EphA2 cannot be regulated by Cbl. Moreover, a point mutation (G306E-Cbl) in TKB region of Cbl that has been reported to abolish Cbl binding to RTKs and non-receptor tyrosine kinases impaired the binding to active EphA2. The dominant negative mutant 70Z-Cbl, which has a 17-amino acids deletion in the N-boundary of the RING finger domain, defuncted negative regulatory function of Cbl to EphA2. These results demonstrate that the TKB domain and RING finger domain of Cbl are essential for this negative regulation.

CT Cell Line

Humans

Phosphorylation

Receptor Protein-Tyrosine Kinases: ME, metabolism

*Receptor Protein-Tyrosine Kinases: PH, physiology

Receptor, EphA2

Research Support, Non-U.S. Gov't
 Research Support, U.S. Gov't, Non-P.H.S.
 Research Support, U.S. Gov't, P.H.S.

*Retroviridae Proteins, Oncogenic: PH, physiology

CN 0 (Retroviridae Proteins, Oncogenic); 0 (oncogene protein v-cbl); EC 2.7.1.112 (Receptor Protein-Tyrosine Kinases); EC 2.7.1.112 (Receptor, EphA2)

L52 ANSWER 10 OF 11 MEDLINE on STN

AN 2002279542 MEDLINE

DN PubMed ID: 12019162

TI Antibody targeting of the EphA2 tyrosine kinase inhibits malignant cell behavior.

AU Carles-Kinch Kelly; Kilpatrick Katherine E; Stewart Jane C; Kinch Michael S

CS Department of Basic Medical Science, Purdue University Cancer Center, West Lafayette, Indiana 47907, USA.

NC 1U01 CA 91318 (NCI)

SO Cancer research, (2002 May 15) 62 (10) 2840-7.

Journal code: 2984705R. ISSN: 0008-5472.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200207

ED Entered STN: 20020522

Last Updated on STN: 20020712

Entered Medline: 20020710

AB EphA2 is a transmembrane receptor tyrosine kinase that is up-regulated on many aggressive carcinoma cells. Despite its overexpression, the EphA2 on malignant cells fails to bind its ligand, ephrinA1, which is anchored to the membrane of adjacent cells. Unlike other receptor kinases, EphA2 demonstrates kinase activity that is independent of ligand binding. However, ligand binding causes EphA2 to negatively regulate tumor cell growth and migration. Herein, we translate knowledge of EphA2 into strategies that selectively target malignant cells. Using a novel approach to preserve extracellular epitopes and optimize antibody diversity, we generated monoclonal antibodies that identify epitopes on the extracellular domain of EphA2. EphA2 antibodies were selected for their abilities to inhibit behaviors that are unique to metastatic cells while minimizing damage to nontransformed cells. A subset of EphA2 monoclonal antibodies were found to inhibit the soft agar colonization by MDA-MB-231 breast tumor cells but did not affect monolayer growth by nontransformed MCF-10A breast epithelial cells. These EphA2 antibodies also prevented tumor cells from forming tubular networks on reconstituted basement membranes, which is a sensitive indicator of metastatic character. Biochemical analyses showed that biologically active antibodies induced EphA2 phosphorylation and subsequent degradation. Antisense-based targeting of EphA2 similarly inhibited soft agar colonization, suggesting that the antibodies repress malignant behavior by down-regulating EphA2. These results suggest an opportunity for antibody-based targeting of the many cancers that overexpress EphA2. Our studies also emphasize how tumor-specific cellular behaviors can be exploited to identify and screen potential therapeutic targets.

CT Check Tags: Female; Male

*Antibodies, Monoclonal: IM, immunology

Antibodies, Monoclonal: IP, isolation & purification

Antibodies, Monoclonal: PD, pharmacology

Breast Neoplasms: EN, enzymology
 *Breast Neoplasms: PA, pathology
 Breast Neoplasms: TH, therapy
 Cell Division: DE, drug effects
 Collagen
 Drug Combinations
 Epithelial Cells: CY, cytology
 Epithelial Cells: DE, drug effects
 Epithelial Cells: ME, metabolism
 Epitopes: IM, immunology
 Growth Inhibitors: IM, immunology
 Growth Inhibitors: PD, pharmacology
 Humans
 Immunization, Passive: MT, methods
 Laminin
 Prostatic Neoplasms: EN, enzymology
 *Prostatic Neoplasms: PA, pathology
 Prostatic Neoplasms: TH, therapy
 Proteoglycans
 *Receptor Protein-Tyrosine Kinases: AI, antagonists & inhibitors
 *Receptor Protein-Tyrosine Kinases: IM, immunology
 Receptor Protein-Tyrosine Kinases: ME, metabolism
Receptor, EphA2
 Research Support, U.S. Gov't, Non-P.H.S.
 Research Support, U.S. Gov't, P.H.S.
 Tumor Cells, Cultured

RN 119978-18-6 (matrigel); 9007-34-5 (Collagen)
 CN 0 (Antibodies, Monoclonal); 0 (Drug Combinations); 0 (Epitopes); 0 (Growth Inhibitors); 0 (Laminin); 0 (Proteoglycans); EC 2.7.1.112 (Receptor Protein-Tyrosine Kinases); EC 2.7.1.112 (Receptor, **EphA2**)

L52 ANSWER 11 OF 11 MEDLINE on STN

AN 96243041 MEDLINE

DN PubMed ID: 8649815

TI Germ-line inactivation of the murine **Eck receptor tyrosine kinase** by gene trap retroviral insertion.

AU Chen J; Nachabiah A; Scherer C; Ganju P; Reith A; Bronson R; Ruley H E
 CS Department of Microbiology and Immunology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232, USA.

NC 1 F32 GM17003-01 (NIGMS)
 RO1GM84688 (NIGMS)

SO Oncogene, (1996 Mar 7) 12 (5) 979-88.
 Journal code: 8711562. ISSN: 0950-9232.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

OS GENBANK-U28385

EM 199607

ED Entered STN: 19960805

Last Updated on STN: 20000303

Entered Medline: 19960722

AB The present study characterized a mutation in the **Eck receptor tyrosine kinase** gene induced by the U3betageo gene trap retrovirus. The mutation (eck(i)) was identified during an in vitro screen for proviruses that disrupt developmentally regulated genes in cultured ES cells. The germ-line eck(i) fusion gene was expressed in blastocyst and later restricted to the primitive streak, node and to regions of the hindbrain in 6.5-10.5 day embryos. This is identical to the pattern of Eck gene expression as determined by either in

situ hybridization or immunostaining, suggesting that expression of the Eck promoter was not affected by provirus integration. The provirus inserted approximately 8 kb upstream of the 5' end of the published cDNA sequence, and 1.8 kb downstream of an alternatively spliced 5' exon. The eck(i) allele is essentially a null mutation since mutant mice are severely deficient for Eck protein as determined by Western blot analysis and in vitro kinase assays. Nevertheless, mice homozygous for the mutation did not exhibit any discernable phenotype. These results suggest that other members of the Eph family of receptor tyrosine kinases can functionally compensate for loss of Eck.

CT Check Tags: Female; Male

Animals

Base Sequence

Blastocyst

*Exons: GE, genetics

*Genes, Structural: GE, genetics

*Genetic Vectors: GE, genetics

Homozygote

Membrane Proteins: DF, deficiency

*Membrane Proteins: GE, genetics

Mice

Mice, Inbred C57BL

Molecular Sequence Data

*Mutagenesis, Insertional: GE, genetics

Mutagenesis, Insertional: MT, methods

Phenotype

*Provirus: GE, genetics

*Receptor Protein-Tyrosine Kinases: GE, genetics

Receptor Protein-Tyrosine Kinases: ME, metabolism

Receptor, EphA2

Research Support, Non-U.S. Gov't

Research Support, U.S. Gov't, P.H.S.

*Restriction Mapping

Rhombencephalon: EM, embryology

Rhombencephalon: ME, metabolism

CN 0 (Genetic Vectors); 0 (Membrane Proteins); EC 2.7.1.112 (Receptor Protein-Tyrosine Kinases); EC 2.7.1.112 (Receptor, **EphA2**)

=> => fil biosis

FILE 'BIOSIS' ENTERED AT 12:35:37 ON 07 JUL 2005

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CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 29 June 2005 (20050629/ED)

FILE RELOADED: 19 October 2003.

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L59 ANSWER 1 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

AN 2004:123940 BIOSIS

DN PREV200400127027

TI Expression, purification, and initial characterization of the cytoplasmic domains of the human receptor tyrosine kinase, **EphA2**.

AU Zabell, Kathryn M. [Reprint Author]; **Kinch, Michael S.**; Knapp, Deborah W.; Stauffacher, Cynthia V. [Reprint Author]

CS Biological Sciences, Purdue University, Lafayette, IN, USA
 SO Biophysical Journal, (January 2004) Vol. 86, No. 1, pp. 254a. print.
 Meeting Info.: **48th Annual Meeting of the Biophysical Society.**
 Baltimore, MD, USA. February 14-18, 2004. Biophysical Society.
 ISSN: 0006-3495 (ISSN print).

DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)

LA English
 ED Entered STN: 3 Mar 2004
 Last Updated on STN: 3 Mar 2004

AB Cellular localization during development is crucial to the correct formation of tissues and organs in all multicellular organisms. The 14 members of the Eph family of receptor tyrosine kinases and their ligands play an important role in establishing and maintaining the correct positionings of cells. **EphA2** is primarily expressed in epithelial cells, where its expression is tightly regulated by phosphorylation and degradation. Loss of regulation decreases phosphorylation, increases protein concentration, and leads to a transformed phenotype resulting in highly aggressive tumors. In order to investigate the activity and regulation of **EphA2**, the cytoplasmic domains (kinase and SAM domains) have been cloned into a bacterial vector for expression in E. coli. Protein expression has been optimized in order to obtain soluble, active protein, and the protein has been purified by affinity chromatography. Characterization of the expressed protein has determined that the kinase domain is active and the protein is purified in a phosphorylated state. Further studies to investigate the activity and oligomeric state of the cytoplasmic domains will be described.

CC **General biology - Symposia, transactions and proceedings 00520**
 Biochemistry studies - General 10060
 Biochemistry studies - Proteins, peptides and amino acids 10064
 Physiology and biochemistry of bacteria 31000

IT Major Concepts
 Biochemistry and Molecular Biophysics; Methods and Techniques

IT Chemicals & Biochemicals
EphA2: characterization, cytoplasmic domains, expression, purification, receptor tyrosine kinase; protein: concentration

IT Methods & Equipment
 affinity chromatography: chromatographic techniques, laboratory techniques; protein characterization: laboratory techniques

ORGN Classifier
 Enterobacteriaceae 06702
 Super Taxa
 Facultatively Anaerobic Gram-Negative Rods; Eubacteria; Bacteria; Microorganisms
 Organism Name
 Escherichia coli (species)
 Taxa Notes
 Bacteria, Eubacteria, Microorganisms

ORGN Classifier
 Hominidae 86215
 Super Taxa
 Primates; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 human (common)
 Taxa Notes
 Animals, Chordates, Humans, Mammals, Primates, Vertebrates

L59 ANSWER 2 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2004:86106 BIOSIS

DN PREV200400085138
 TI CD8+ and CD4+ T cell-mediated immunity against novel **EphA2**
 -derived epitopes in patients with renal cell carcinoma.
 AU Herrem, Christopher J. [Reprint Author]; Tatsumi, Tomohide; Olson, Walter;
 Finke, James H.; Bukowski, Ronald M.; **Kinch, Michael S.**;
 Storkus, Walter J.
 CS Immunology, Medical School, University of Pittsburgh, 5117 Centre Avenue,
 Pittsburgh, PA, 15213, USA
 SO FASEB Journal, (April 14 2003) Vol. 17, No. 7, pp. C333. print.
 Meeting Info.: **90th Anniversary Annual Meeting of the American**
Association of Immunologists. Denver, CO, USA. May 06-10, 2003.
 American Association of Immunologists.
 ISSN: 0892-6638 (ISSN print).
 DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 11 Feb 2004
 Last Updated on STN: 11 Feb 2004
 CC **General biology - Symposia, transactions and proceedings 00520**
 Cytology - Animal 02506
 Cytology - Human 02508
 Blood - Blood and lymph studies 15002
 Blood - Blood cell studies 15004
 Urinary system - Pathology 15506
 Neoplasms - Immunology 24003
 Neoplasms - Pathology, clinical aspects and systemic effects 24004
 Immunology - General and methods 34502
 Immunology - Immunopathology, tissue immunology 34508
 IT Major Concepts
 Clinical Immunology (Human Medicine, Medical Sciences); Oncology (Human
 Medicine, Medical Sciences)
 IT Parts, Structures, & Systems of Organisms
 CD4-positive T cells: blood and lymphatics, immune system, EphA-2
 derived epitope response, renal cell carcinoma, renal cell carcinoma
 study; CD8-positive T cells: blood and lymphatics, immune system,
 EphA-2 derived epitope response, renal cell carcinoma, renal cell
 carcinoma study
 IT Diseases
 renal cell carcinoma: neoplastic disease, urologic disease, immunology
 Carcinoma, Renal Cell (MeSH); Kidney Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 EphA-2 derived epitopes: CD4-positive T cell mediated immunity,
 CD8-positive T cell mediated immunity, renal cell carcinoma study
 ORGN Classifier
 Hominidae 86215
 Super Taxa
 Primates; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 human (common): patient
 Taxa Notes
 Animals, Chordates, Humans, Mammals, Primates, Vertebrates
 L59 ANSWER 3 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2003:503134 BIOSIS
 DN PREV200300498778
 TI Antibody targeting of the **EphA2** receptor tyrosine kinase on
 breast cancer cells.
 AU Hu, Min [Reprint Author]; **Kinch, Michael S.**
 CS Purdue University, West Lafayette, IN, USA
 SO **Proceedings of the American Association for Cancer Research**

Annual Meeting, (July 2003) Vol. 44, pp. 1234. print.
 Meeting Info.: 94th Annual Meeting of the American Association for
 Cancer Research. Washington, DC, USA. July 11-14, 2003.
 ISSN: 0197-016X.

DT Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 29 Oct 2003
 Last Updated on STN: 29 Oct 2003
 CC General biology - Symposia, transactions and proceedings 00520
 Enzymes - General and comparative studies: coenzymes 10802
 Reproductive system - Physiology and biochemistry 16504
 Reproductive system - Pathology 16506
 Neoplasms - Immunology 24003
 Neoplasms - Pathology, clinical aspects and systemic effects 24004
 Immunology - General and methods 34502
 Immunology - Immunopathology, tissue immunology 34508
 IT Major Concepts
 Enzymology (Biochemistry and Molecular Biophysics); Immune System
 (Chemical Coordination and Homeostasis); Tumor Biology
 IT Parts, Structures, & Systems of Organisms
 breast: reproductive system
 IT Diseases
 breast cancer: neoplastic disease, reproductive system disease/female
 Breast Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 EphA2 receptor tyrosine kinase: phosphorylation; monoclonal
 antibody
 IT Miscellaneous Descriptors
 antibody targeting
 ORGN Classifier
 Hominidae 86215
 Super Taxa
 Primates; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 MCF-10A cell line (cell line): human breast cancer cells
 MDA-MB-231 cell line (cell line): human breast cancer cells
 Taxa Notes
 Animals, Chordates, Humans, Mammals, Primates, Vertebrates
 RN 149433-91-0 (EphA2 receptor tyrosine kinase)
 L59 ANSWER 4 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2003:502353 BIOSIS
 DN PREV200300498371
 TI Epitope targeting of EphA2: New opportunities for selective
 killing of tumor cells.
 AU Kinch, Michael S. [Reprint Author]; Coffman, Karen [Reprint
 Author]; Carles-Kinch, Kelly [Reprint Author]; Donacki, Nanci E. [Reprint
 Author]; Kiener, Peter A. [Reprint Author]; Langermann,
 Solomon [Reprint Author]; Mancini, Marie [Reprint Author]; Tice,
 David [Reprint Author]; Woods, Robert [Reprint Author]
 CS MedImmune, Inc, Gaithersburg, MD, USA
 SO Proceedings of the American Association for Cancer Research
 Annual Meeting, (July 2003) Vol. 44, pp. 1118. print.
 Meeting Info.: 94th Annual Meeting of the American Association for
 Cancer Research. Washington, DC, USA. July 11-14, 2003.
 ISSN: 0197-016X.
 DT Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 LA English

ED Entered STN: 29 Oct 2003
 Last Updated on STN: 29 Oct 2003

CC **General biology - Symposia, transactions and proceedings 00520**
 Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts
 Tumor Biology

IT Diseases
 tumor: neoplastic disease
 Neoplasms (MeSH)

IT Chemicals & Biochemicals
EphA2: receptor tyrosine kinase, expression

IT Miscellaneous Descriptors
 cell-cell contact; ligand binding; tumor cell growth

ORGN Classifier
 Animalia 33000
 Super Taxa
 Animalia
 Organism Name
 animal (common)
 Taxa Notes
 Animals

L59 ANSWER 5 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2003:476294 BIOSIS
 DN PREV200300476294

TI Overexpression of **EphA2** in urinary bladder cancer.
 AU Abraham, Shaji [Reprint Author]; Mohammed, Sulma I.; Kanagy, Sarah;
 Kinch, Micheal; Knapp, Deborah
 CS Purdue University, 625 Harrison St, West Lafayette, IN, USA
 SO **Proceedings of the American Association for Cancer Research**
Annual Meeting, (July 2003) Vol. 44, pp. 1070. print.
 Meeting Info.: **94th Annual Meeting of the American Association for**
Cancer Research. Washington, DC, USA. July 11-14, 2003.
 ISSN: 0197-016X.

DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 15 Oct 2003
 Last Updated on STN: 15 Oct 2003

CC **General biology - Symposia, transactions and proceedings 00520**
 Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
 Biochemistry studies - Proteins, peptides and amino acids 10064
 Urinary system - Physiology and biochemistry 15504
 Urinary system - Pathology 15506
 Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts
 Tumor Biology; Urinary System (Chemical Coordination and Homeostasis)

IT Diseases
 urinary bladder cancer: neoplastic disease, urologic disease, etiology
 Bladder Neoplasms (MeSH)

IT Chemicals & Biochemicals
EphA2: biomarker, expression; **EphA2** mRNA [**EphA2** messenger RNA]: expression

IT Methods & Equipment
 RT-PCR [reverse transcriptase-polymerase chain reaction]: genetic
 techniques, laboratory techniques; immunohistochemistry: immunologic
 techniques, laboratory techniques; western blot analysis: genetic
 techniques, laboratory techniques

ORGN Classifier
 Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

RT4 cell line (cell line): human urinary bladder cancer cells

TCC-SUP cell line (cell line): human urinary bladder cancer cells

UMUC-3 cell line (cell line): human urinary bladder cancer cells

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

L59 ANSWER 6 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2003:441702 BIOSIS

DN PREV200300441702

TI **EphA2** expression is associated with aggressive features in
 ovarian carcinoma.

AU Thaker, Premal H. [Reprint Author]; Kinch, Michael; Sood, Anil
 K.

CS University of Texas M.D. Anderson Cancer Center, Houston, TX, USA

SO **Proceedings** of the American Association for Cancer Research

Annual Meeting, (July 2003) Vol. 44, pp. 89. print.

Meeting Info.: **94th Annual Meeting of the American Association for
 Cancer Research.** Washington, DC, USA. July 11-14, 2003.

ISSN: 0197-016X.

DT **Conference; (Meeting)**

Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 24 Sep 2003

Last Updated on STN: 24 Sep 2003

CC **General biology - Symposia, transactions and proceedings 00520**

Enzymes - General and comparative studies: coenzymes 10802

Digestive system - Pathology 14006

Reproductive system - Physiology and biochemistry 16504

Reproductive system - Pathology 16506

Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts

Enzymology (Biochemistry and Molecular Biophysics); Reproductive System
 (Reproduction); Tumor Biology

IT Diseases

ascites: digestive system disease

Ascites (MeSH)

IT Diseases

benign ovarian mass: reproductive system disease/female

IT Diseases

ovarian carcinoma: neoplastic disease, reproductive system
 disease/female

Ovarian Neoplasms (MeSH); Carcinoma (MeSH)

IT Chemicals & Biochemicals

epithelial cell kinase A2 [**EphA2**]: expression

IT Miscellaneous Descriptors

tumor grade

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

human (common): middle age, patient, female

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

L59 ANSWER 7 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

AN 2003:270640 BIOSIS

DN PREV200300270640
 TI Ligand (ephrin-A1) binding upregulates **EphA2** gene expression.
 AU Pratt, Rebecca Lynn [Reprint Author]; Kinch, Michael S.
 CS Basic Medical Sciences, Purdue University, 625 Harrison Street, West
 Lafayette, IN, 47907-2026, USA
 rlp@vet.purdue.edu; kinchm@medimmune.com
 SO FASEB Journal, (March 2003) Vol. 17, No. 4-5, pp. Abstract No.
 146.9. <http://www.fasebj.org/>. e-file.
 Meeting Info.: **FASEB Meeting on Experimental Biology: Translating the
 Genome**. San Diego, CA, USA. April 11-15, 2003. FASEB.
 ISSN: 0892-6638 (ISSN print).
 DT Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 11 Jun 2003
 Last Updated on STN: 11 Jun 2003
 AB The **EphA2** receptor tyrosine kinase is overexpressed in many
 cancers. Increased levels of **EphA2** protein are characteristic
 of a metastatic phenotype because **EphA2** overexpression
 positively regulates many different aspects of malignancy, including tumor
 cell growth, migration and invasion. While the relationship between
EphA2 and these biological outcomes has been the subject of much
 recent investigation, less is known of the mechanisms that govern
EphA2 gene expression. Our present studies demonstrate that
EphA2 gene expression is positively regulated by its own ability
 to bind ligand (ephrin-A1). Treatment of malignant (MDA-MB-231) or
 non-transformed (MCF10A) breast epithelial lines with artificial ligands
 induced **EphA2** gene expression whereas antagonists of
EphA2-ligand binding decreased **EphA2** mRNA levels. We
 also demonstrate that Ephrin-A1-mediated induction of **EphA2** gene
 expression requires intracellular signaling through the MAP/ERK kinase
 pathway. These findings provide intriguing evidence that **EphA2**
 expression and function are intimately linked in both non-transformed and
 malignant epithelial cells. Ultimately, this information could help to
 understand the mechanisms that cause the increased expression of this
 important and influential oncogene in human cancer.
 CC General biology - Symposia, transactions and proceedings 00520
 Genetics - General 03502
 Genetics - Human 03508
 Neoplasms - Pathology, clinical aspects and systemic effects 24004
 IT Major Concepts
 Molecular Genetics (Biochemistry and Molecular Biophysics); Tumor
 Biology
 IT Diseases
 cancer: neoplastic disease
 Neoplasms (MeSH)
 IT Diseases
 metastasis: neoplastic disease
 IT Chemicals & Biochemicals
EphA2: receptor tyrosine kinase; **EphA2** mRNA [
EphA2 messenger RNA]; ephrin-A1
 IT Miscellaneous Descriptors
 MAP/ERK kinase pathway; tumor cell growth; tumor cell invasion; tumor
 cell migration
 ORGN Classifier
 Hominidae 86215
 Super Taxa
 Primates; Mammalia; Vertebrata; Chordata; Animalia
 Organism Name
 MCF10A cell line (cell line): human non-transformed breast epithelial

cells

MDA-MB-231 cell line (cell line): human malignant breast epithelial cells

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

GEN human **EphA2** gene (Hominidae): expression, oncogene

L59 ANSWER 8 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

AN 2003:82261 BIOSIS

DN PREV200300082261

TI **EphA2** overexpression in breast cancer decreases estrogen dependence.

AU Lu, M. [Reprint Author]; Miller, K. D.; Polar, Y.; Nakshatri, H.; Kinch, M.

CS Purdue University Cancer Center, West Lafayette, IN, USA

SO Breast Cancer Research and Treatment, (December 2002) Vol. 76, No. Supplement 1, pp. S144. print.

Meeting Info.: 25th Annual San Antonio Breast Cancer Symposium.

San Antonio, TX, USA. December 11-14, 2002.

ISSN: 0167-6806 (ISSN print).

DT Conference; (Meeting)

Conference; Abstract; (Meeting Abstract)

Conference; (Meeting Poster)

LA English

ED Entered STN: 6 Feb 2003

Last Updated on STN: 6 Feb 2003

CC General biology - Symposia, transactions and proceedings 00520

Biochemistry studies - General 10060

Biochemistry studies - Proteins, peptides and amino acids 10064

Reproductive system - Physiology and biochemistry 16504

Reproductive system - Pathology 16506

Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts

Biochemistry and Molecular Biophysics; Reproductive System (Reproduction); Tumor Biology

IT Diseases

breast cancer: neoplastic disease, reproductive system disease/female

Breast Neoplasms (MeSH)

IT Chemicals & Biochemicals

EphA2: overexpression, receptor tyrosine kinase; estrogen; estrogen receptor

IT Miscellaneous Descriptors

estrogen dependence

ORGN Classifier

Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

MCF-7 cell line (cell line)

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates, Vertebrates

L59 ANSWER 9 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

AN 2002:511226 BIOSIS

DN PREV200200511226

TI Design and synthesis of tyrosine phosphatase inhibitor directed toward new cancer treatments.

AU Zabell, Adam P. R. [Reprint author]; Stauffacher, Cynthia [Reprint author]; Kinch, Michael [Reprint author]; Katsuyama, Isamu; Wiest, Olaf; Helquist, Paul

CS Walther Cancer Institute, Purdue University, West Lafayette, IN, 47907,
USA
ikatsuya@nd.edu

SO **Abstracts of Papers American Chemical Society, (2002) Vol. 224,**
No. 1-2, pp. ORGN 130. print.
Meeting Info.: **224th National Meeting of the American Chemical**
Society. Boston, MA, USA. August 18-22, 2002.
CODEN: ACSRAL. ISSN: 0065-7727.

DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 2 Oct 2002
Last Updated on STN: 2 Oct 2002

CC **General biology - Symposia, transactions and proceedings 00520**
Pathology - Therapy 12512
Pharmacology - General 22002
Neoplasms - Pathology, clinical aspects and systemic effects 24004
Neoplasms - Therapeutic agents and therapy 24008

IT Major Concepts
Pharmacology

IT Diseases
cancer: neoplastic disease
Neoplasms (MeSH)

IT Chemicals & Biochemicals
EphA2; HCPTP; tyrosine phosphatase inhibitor:
antineoplastic-drug, enzyme inhibitor-drug

IT Methods & Equipment
computational design: analytical method

IT Miscellaneous Descriptors
drug development; metastasis; **Meeting Abstract**

L59 ANSWER 10 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
STN

AN 2002:409529 BIOSIS

DN PREV200200409529

TI Molecular regulation of melanoma tumor cell vasculogenic mimicry by
EphA2 and VE-cadherin: A novel signaling pathway.

AU Hess, Angela R. [Reprint author]; Seftor, Elisabeth A.; Gruman, Lynn M.;
Kinch, Michael S.; Seftor, Richard E. B.; Hendrix, Mary J. C.

CS University of Iowa, Iowa City, IA, USA

SO **Proceedings of the American Association for Cancer Research**
Annual Meeting, (March, 2002) Vol. 43, pp. 843. print.
Meeting Info.: **93rd Annual Meeting of the American Association for**
Cancer Research. San Francisco, California, USA. April 06-10, 2002.
ISSN: 0197-016X.

DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 31 Jul 2002
Last Updated on STN: 23 Sep 2002

CC **General biology - Symposia, transactions and proceedings 00520**
Enzymes - General and comparative studies: coenzymes 10802
Cardiovascular system - Physiology and biochemistry 14504
Integumentary system - Physiology and biochemistry 18504
Integumentary system - Pathology 18506
Neoplasms - Pathology, clinical aspects and systemic effects 24004

IT Major Concepts
Cardiovascular System (Transport and Circulation); Enzymology
(Biochemistry and Molecular Biophysics); Integumentary System (Chemical
Coordination and Homeostasis); Tumor Biology

IT Parts, Structures, & Systems of Organisms
 skin: integumentary system; vascular endothelium: circulatory system

IT Diseases
 melanoma: integumentary system disease, neoplastic disease
 Melanoma (MeSH)

IT Chemicals & Biochemicals
 EphA2: expression; FRNK: expression; LY294002: enzyme
 inhibitor-drug; VE-cadherin [vascular endothelium-cadherin]:
 expression; focal adhesion kinase [FAK]: phosphorylation;
 phosphoinositide 3-kinase [PI3K]

IT Miscellaneous Descriptors
 tumor cell vasculogenic mimicry regulation; **Meeting Abstract**

ORGN Classifier
 Animalia 33000
 Super Taxa
 Animalia
 Organism Name
 animal
 Taxa Notes
 Animals

RN 154447-36-6 (LY294002)
 144114-16-9 (focal adhesion kinase)
 144114-16-9 (FAK)
 115926-52-8 (PHOSPHOINOSITIDE 3-KINASE)

L59 ANSWER 11 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
 STN

AN 2002:396016 BIOSIS

DN PREV200200396016

TI Stimulation of the oncoprotein, **EphA2**, activates the ERK
 signaling pathway: Linking the biochemical and biological consequences of
 ligand binding.

AU Pratt, Rebecca L. [Reprint author]; **Kinch, Michael S.** [Reprint
 author]

CS Purdue University, West Lafayette, IN, USA

SO **Proceedings** of the American Association for Cancer Research
 Annual Meeting, (March, 2002) Vol. 43, pp. 726. print.
 Meeting Info.: **93rd Annual Meeting of the American Association for
 Cancer Research**. San Francisco, California, USA. April 06-10, 2002.
 ISSN: 0197-016X.

DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 24 Jul 2002
 Last Updated on STN: 24 Jul 2002

CC **General biology - Symposia, transactions and proceedings 00520**
 Enzymes - General and comparative studies: coenzymes 10802

IT Major Concepts
 Enzymology (Biochemistry and Molecular Biophysics)

IT Chemicals & Biochemicals
 ERK [extracellular signal-regulated kinase]: phosphorylation,
 regulation, signaling; Elk-1: transcription factor; Eph2: expression,
 oncoprotein; GRB2: adaptor protein; SHC: adaptor protein

IT Miscellaneous Descriptors
 ligand binding; **Meeting Abstract**

RN 142243-02-5 (EXTRACELLULAR SIGNAL-REGULATED KINASE)

L59 ANSWER 12 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
 STN

AN 2002:22133 BIOSIS

DN PREV200200022133
 TI The mechanism of **EphA2** protein degradation: Implications of increased **EphA2** protein levels in metastatic cancer cells.
 AU Walker-Daniels, Jennifer L. [Reprint author]; Van Horn, Deborah A. [Reprint author]; **Kinch, Michael S.** [Reprint author]
 CS Purdue University, West Lafayette, IN, USA
 SO **Proceedings of the American Association for Cancer Research Annual Meeting**, (March, 2001) Vol. 42, pp. 840. print.
 Meeting Info.: **92nd Annual Meeting of the American Association for Cancer Research**. New Orleans, LA, USA. March 24-28, 2001.
 ISSN: 0197-016X.
 DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 26 Dec 2001
 Last Updated on STN: 25 Feb 2002
 CC **General biology - Symposia, transactions and proceedings 00520**
 Neoplasms - Pathology, clinical aspects and systemic effects 24004
 IT Major Concepts
 Tumor Biology
 IT Diseases
 metastatic cancer: neoplastic disease
 Neoplasm Metastasis (MeSH)
 IT Chemicals & Biochemicals
 EphA-2 protein: increased metastatic tumor cell level implications,
 metastatic tumor cell degradation mechanism
 IT Miscellaneous Descriptors
Meeting Abstract
 ORGN Classifier
 Animalia 33000
 Super Taxa
 Animalia
 Organism Name
 animal: animal model
 Taxa Notes
 Animals

L59 ANSWER 13 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 2001:244422 BIOSIS
 DN PREV200100244422
 TI **EphA2** overexpression alters cellular adhesions: Implications for metastasis.
 AU Zelinski, Daniel Paul [Reprint author]; **Kinch, Michael** [Reprint author]
 CS Purdue University, 1322 Lynn Hall, West Lafayette, IN, 47906, USA
 SO FASEB Journal, (March 7, 2001) Vol. 15, No. 4, pp. A234. print.
 Meeting Info.: **Annual Meeting of the Federation of American Societies for Experimental Biology on Experimental Biology 2001**. Orlando, Florida, USA. March 31-April 04, 2001.
 CODEN: FAJOEC. ISSN: 0892-6638.
 DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 23 May 2001
 Last Updated on STN: 19 Feb 2002
 AB Many of the most deadly forms of cancer arise when a population of tumor cells gains the ability to survive and grow in a foreign microenvironment. At the cellular level, metastasis requires alterations in cellular adhesions that permit detachment from the primary tumor and invasion

through the underlying basement membrane. However, the causes for these changes in adhesion are poorly understood. Studies in our laboratory have linked these changes with the **Epha2 (Eck) receptor tyrosine kinase**, which is overexpressed in many metastatic cancers. To study the effects of **Epha2** on cancer progression and pathogenesis, we overexpressed **Epha2** in a non-transformed breast epithelial cell line, MCF-10A1. In vitro assays for transformation showed that **Epha2** overexpression is sufficient to promote invasiveness and anchorage independent growth. **Epha2**-overexpressing cells demonstrated tumorigenic and metastatic potential in xenograft studies. During our assessment of these cells, we noted dramatic changes in their cellular morphology that resembled metastatic cells. Objective measurements of cellular adhesions revealed that the **Epha2**-overexpressing cells had decreased cell-cell adhesions and increased cell-ECM adhesions. Our analyses have demonstrated a change in ECM substrate preferences that implicates a change in integrin expression. We are currently investigating the mechanisms by which **Epha2** overexpression changes the adhesive behavior of epithelial cells, which is important because this information will provide critical insight into the fundamental causes of metastasis.

- CC Biochemistry studies - General 10060
 General biology - Symposia, transactions and proceedings 00520
 Cytology - General 02502
 Cytology - Animal 02506
 Neoplasms - Pathology, clinical aspects and systemic effects 24004
- IT Major Concepts
 Biochemistry and Molecular Biophysics; Cell Biology; Tumor Biology
- IT Parts, Structures, & Systems of Organisms
 epithelial cells, adhesive behavior; extracellular matrix
- IT Chemicals & Biochemicals
 Epha2 protein: expression
- IT Miscellaneous Descriptors
 cellular adhesion: alteration; metastasis; **Meeting Abstract**
- L59 ANSWER 14 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
- AN 2000:238522 BIOSIS
- DN PREV200000238522
- TI **Epha2** overexpression in breast cancer: Regulation by estrogen and c-Myc.
- AU Zelinski, Daniel P. [Reprint author]; Dodge-Zantek, Nicole [Reprint author]; Stewart, Jane C. [Reprint author]; Peters, Mette A. [Reprint author]; Taparowsky, Elizabeth J. [Reprint author]; **Kinch, Michael S.** [Reprint author]
- CS Purdue Univ, West Lafayette, IN, USA
- SO **Proceedings of the American Association for Cancer Research Annual Meeting**, (March, 2000) No. 41, pp. 358. print.
 Meeting Info.: **91st Annual Meeting of the American Association for Cancer Research**. San Francisco, California, USA. April 01-05, 2000. ISSN: 0197-016X.
- DT **Conference; (Meeting)**
 Conference; Abstract; (Meeting Abstract)
- LA English
- ED Entered STN: 7 Jun 2000
 Last Updated on STN: 5 Jan 2002
- CC Neoplasms - General 24002
 Biophysics - Membrane phenomena 10508
 Reproductive system - Pathology 16506
 Endocrine - Gonads and placenta 17006

General biology - Symposia, transactions and proceedings 00520
 Biochemistry studies - Sterols and steroids 10067
 IT Major Concepts
 Reproductive System (Reproduction); Tumor Biology
 IT Diseases
 breast cancer: neoplastic disease, reproductive system disease/female
 Breast Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 EphA2 receptor; c-Myc; estrogen
 IT Miscellaneous Descriptors
 cancer progression; **Meeting Abstract**

L59 ANSWER 15 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
 STN
 AN 2000:82525 BIOSIS
 DN PREV200000082525
 TI Overexpression of **EphA2** in metastatic cancer cells: A role for
 Ras signaling.
 AU Walker-Daniels, Jennifer L. [Reprint author]; Zantek, Nicole D. [Reprint
 author]; Azimi, Minou [Reprint author]; **Kinch, Michael S.**
 [Reprint author]
 CS Purdue University, 1246 Lynn Hall, West Lafayette, IN, 47907-1246, USA
 SO Molecular Biology of the Cell, (Nov., 1999) Vol. 10, No. SUPPL., pp. 427a.
 print.
 Meeting Info.: **39th Annual Meeting of the American Society for Cell
 Biology.** Washington, D.C., USA. December 11-15, 1999. The American
 Society for Cell Biology.
 CODEN: MBCEEV. ISSN: 1059-1524.
 DT **Conference; (Meeting)**
 Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 1 Mar 2000
 Last Updated on STN: 3 Jan 2002
 CC Neoplasms - General 24002
 Cytology - General 02502
 Biochemistry studies - General 10060
 Metabolism - General metabolism and metabolic pathways 13002
 Reproductive system - General and methods 16501
 Urinary system - General and methods 15501
 General biology - Symposia, transactions and proceedings 00520
 IT Major Concepts
 Biochemistry and Molecular Biophysics; Tumor Biology
 IT Parts, Structures, & Systems of Organisms
 metastatic cancer cells
 IT Diseases
 breast cancer: neoplastic disease, reproductive system disease/female
 Breast Neoplasms (MeSH)
 IT Diseases
 epithelial cancers: neoplastic disease
 IT Diseases
 prostate cancer: neoplastic disease, reproductive system disease/male,
 urologic disease
 Prostatic Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 EphA2: overexpression; Ras
 IT Miscellaneous Descriptors
 Meeting Abstract

L59 ANSWER 16 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on
 STN

AN 1999:187448 BIOSIS
 DN PREV199900187448
 TI Regulation of the **EphA2** receptor tyrosine kinase by estrogen and myc.
 AU Zantek, N. D.; Zelinski, D.; Peters, M. A.; Taparowsky, E. J.; **Kinch, M. S.**
 CS Purdue Univ., West Lafayette, IN 47907, USA
 SO **Proceedings of the American Association for Cancer Research Annual Meeting**, (March, 1999) Vol. 40, pp. 687. print.
 Meeting Info.: **90th Annual Meeting of the American Association for Cancer Research**. Philadelphia, Pennsylvania, USA. April 10-14, 1999.
 American Association for Cancer Research.
 ISSN: 0197-016X.
 DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 5 May 1999
 Last Updated on STN: 5 May 1999
 CC Enzymes - General and comparative studies: coenzymes 10802
 Biochemistry studies - General 10060
 Reproductive system - General and methods 16501
 Neoplasms - General 24002
General biology - Symposia, transactions and proceedings 00520
 IT Major Concepts
 Enzymology (Biochemistry and Molecular Biophysics); Tumor Biology
 IT Diseases
 breast cancer: neoplastic disease, reproductive system disease/female
 Breast Neoplasms (MeSH)
 IT Chemicals & Biochemicals
 c-myc protein: transcription factor; estrogen; **EphA2** receptor
 tyrosine kinase: regulation
 IT Miscellaneous Descriptors
Meeting Abstract
 RN **149433-91-0 (EphA2 receptor tyrosine kinase)**
 80449-02-1 (TYROSINE KINASE)

 L59 ANSWER 17 OF 17 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 AN 1999:26830 BIOSIS
 DN PREV199900026830
 TI Epithelial cell kinase (ECK/**EPHA2**) regulation in breast cancer.
 AU Zantek, Nicole Dodge [Reprint author]; Fedor-Chaiken, Mary; Brackenbury, Robert; **Kinch, Michael S.**
 CS Dep. Basic Med. Sci., Purdue Univ., West Lafayette, IN 47907, USA
 SO **Molecular Biology of the Cell**, (Nov., 1998) Vol. 9, No. SUPPL., pp. 134A. print.
 Meeting Info.: **38th Annual Meeting of the American Society for Cell Biology**. San Francisco, California, USA. December 12-16, 1998.
 American Society for Cell Biology.
 CODEN: MBCEEV. ISSN: 1059-1524.
 DT **Conference; (Meeting)**
Conference; Abstract; (Meeting Abstract)
 LA English
 ED Entered STN: 20 Jan 1999
 Last Updated on STN: 20 Jan 1999
 CC Neoplasms - General 24002
 Cytology - General 02502
 Biochemistry studies - General 10060
 Enzymes - General and comparative studies: coenzymes 10802
 Reproductive system - General and methods 16501

General biology - Symposia, transactions and proceedings 00520

IT Major Concepts
 Enzymology (Biochemistry and Molecular Biophysics); Tumor Biology

IT Diseases
 breast cancer: neoplastic disease, reproductive system disease/female
 Breast Neoplasms (MeSH)

IT Chemicals & Biochemicals
 E-cadherin; Epithelial Cell Kinase [ECK/**EphA2**]: Eph family
 tyrosine kinase; breast cancer progression marker

IT Miscellaneous Descriptors
Meeting Abstract

RN 9031-44-1 (KINASE)
 80449-02-1 (TYROSINE KINASE)

=> d his

(FILE 'HOME' ENTERED AT 11:26:38 ON 07 JUL 2005)
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 11:26:44 ON 07 JUL 2005

E EPH

L1 4 S E3()A2

L2 154 S E29,E32

L3 156 S L1,L2
 E KIENER P/AU

L4 99 S E3,E4,E7,E8
 E KINCH M/AU

L5 66 S E3,E5,E7,E10,E11
 E LANGERMAN S/AU

L6 37 S E4,E5,E11-E14
 E MEDIMMUN/PA,CS

L7 218 S MEDIMMUNE?/PA,CS

L8 1 S US20050049176/PN OR (US2004-823259# OR WO2004-US11481 OR US20

L9 1 S L3 AND L8

L10 106 S L3 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)

L11 59 S EPHRIN TYPE A RECEPTOR 2

L12 27 S L11 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)

L13 117 S L10,L12

FILE 'REGISTRY' ENTERED AT 11:33:54 ON 07 JUL 2005

E EPH/CN
 E EPHA2

L14 27 S E3

L15 0 S EPH A2

FILE 'HCAPLUS' ENTERED AT 11:36:36 ON 07 JUL 2005

L16 130 S L14

L17 25 S ECK() (KINASE OR RECEPTOR KINASE OR RECEPTOR PROTEIN KINASE OR

L18 1 S EPITHELIAL CELL RECEPTOR PROTEIN TYROSINE KINASE

L19 117 S L16-L18 AND (PD<=20030411 OR PRD<=20030411 OR AD<=20030411)

L20 174 S L13,L19

L21 29 S L4-L7 AND L20

L22 29 S L21 AND (?KINASE? OR TYROSINE OR PROTEINKINASE OR PROTEIN KIN

L23 28 S L22 AND RECEPTOR

L24 29 S L22,L23

L25 29 S L9,L24

L26 14 S L4-L7 AND L3,L11,L16-L18 NOT L25

L27 193 S L3,L11,L16-L18 NOT L25,L26

L28 145 S L27 AND L10,L12,L19

L29 9 S L28 AND ANTAGON?
 L30 61 S L28 AND (INHIBIT? OR BLOCK? OR PREVENT?)
 L31 62 S L29,L30
 SEL DN AN 3 6 14-16 20 30 34 39 47 48 50 52 53 60
 L32 15 S L31 AND E1-E45
 L33 44 S L25,L32
 L34 83 S L28 NOT L31,L25,L26
 SEL DN AN 4 5 8 26 27 32 34 38 41 68 83
 L35 11 S L34 AND E46-E78
 L36 55 S L33,L35 AND L1-L13,L16-L35
 L37 55 S L36 AND (?TYROSIN? OR ?KINASE? OR RECEPTOR OR PROTEIN)
 L38 10 S L37 AND ECK
 L39 51 S L37 AND (EPH OR EPHRIN? OR EPH## OR EPH A#)
 L40 55 S L37-L39
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 12:19:56 ON 07 JUL 2005

L41 2 S E79-E80
 L42 2 S L41 AND L14

FILE 'REGISTRY' ENTERED AT 12:20:37 ON 07 JUL 2005

FILE 'HCAPLUS' ENTERED AT 12:20:44 ON 07 JUL 2005

FILE 'MEDLINE' ENTERED AT 12:22:57 ON 07 JUL 2005

L43 0 S L14
 L44 116 S L17 OR L18 OR L1 OR L2 OR L11
 E EPH
 L45 3 S E3()A2
 L46 111 S E18
 L47 86 S L44-L46 AND PY<=2003
 L48 3 S L47 NOT AB/FA
 SEL DN AN 1
 L49 1 S E1-E2 AND L48
 L50 83 S L47 NOT L48
 SEL DN AN L50 2 13 16 17 19 20 22 32 34 69
 L51 10 S L50 AND E3-E22
 L52 11 S L49,L51

FILE 'MEDLINE' ENTERED AT 12:31:34 ON 07 JUL 2005

FILE 'BIOSIS' ENTERED AT 12:31:45 ON 07 JUL 2005

E KIENERP/AU
 E KIENER/AU
 L53 108 S E23-E26
 E KINCH M/AU
 L54 68 S E3,E5-E9
 E LANGERMA S/AU
 L55 45 S E18,E22-E24
 L56 11 S L14
 L57 133 S L44
 L58 36 S L53-L55 AND L56,L57
 L59 17 S L58 AND (00520/CC OR (CONFERENCE? OR CONGRESS? OR POSTER? OR

FILE 'BIOSIS' ENTERED AT 12:35:37 ON 07 JUL 2005

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